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TELL IT TO THE ARMY AND NAVY

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IT'S FRIENDSHIP WITH COLORED

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TO DETERMINE TEACHING LOAD . . *L. L. Myers*

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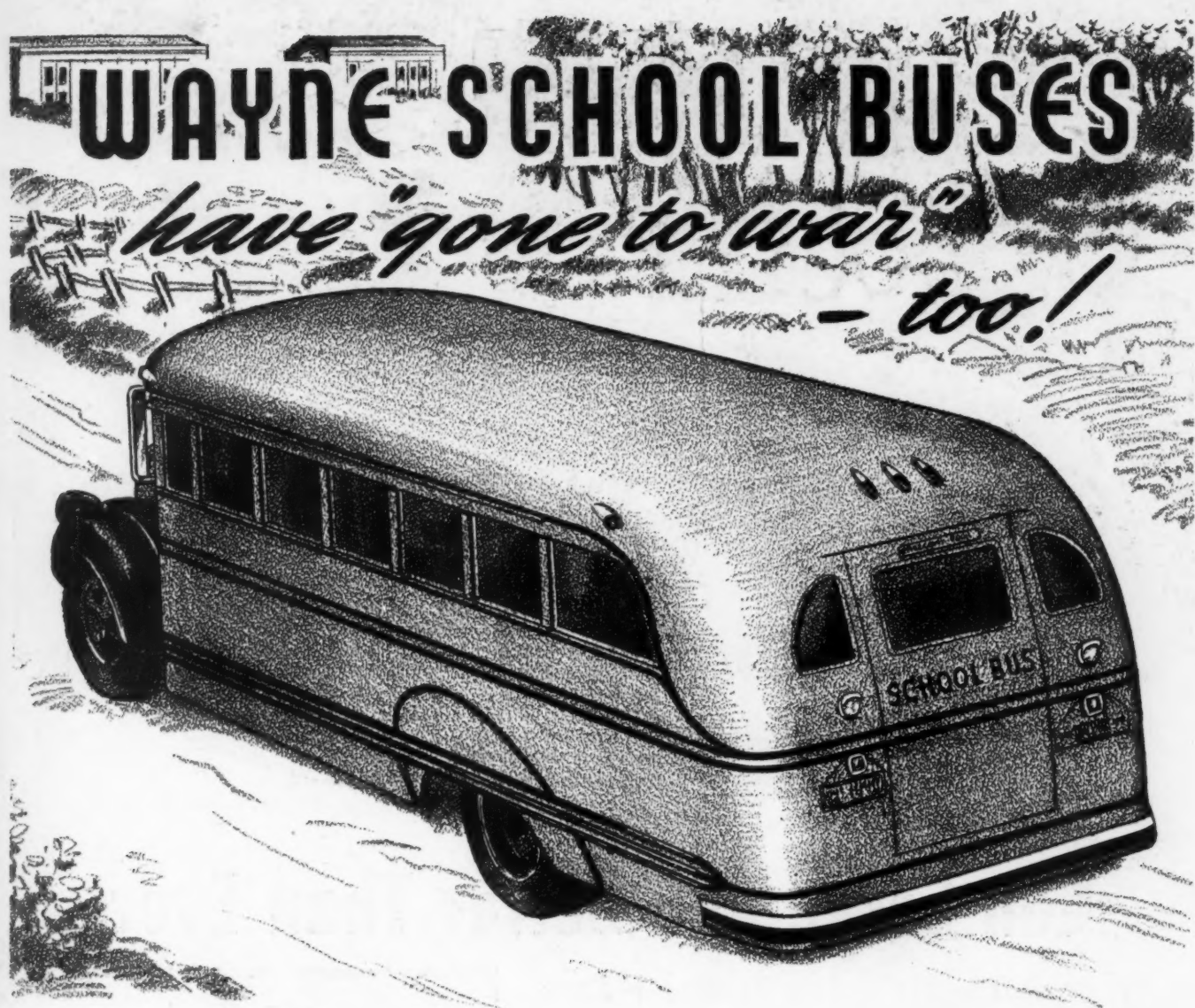


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HEADLINES

BLACK MARKET: BUSES

O.D.T. froze in present service on March 17 all school buses in an effort to stop the developing black market threatening to deprive school children of transportation. (Story on page 62.)

Bus operators were bringing pupils to school in the morning, selling their buses at a large profit at noon and letting the children walk home. (Story on page 62.)

FARM VOLUNTEERS

Secretary of Agriculture Wickard has asked governors of all the states to release from schools from 500,000 to 650,000 farm volunteers to help plant essential crops this spring.

The High School Victory Corps will furnish most of the farm volunteers. Schools that do not have Victory Corps will set up separate recruiting programs. (Story on page 62.)

CHILD CARE CENTERS

The Senate killed the \$2,284,000 appropriation amendment to the deficiency bill to provide cash to care for children of working mothers. Undaunted, Senator Carl Hayden of Arizona introduced a new bill, which was referred to a committee. (Story on page 58.)

O.D.H.W.S. says it can carry on community services for these children until May 15 with present funds. Senator McNary says F.W.A. has funds to handle the child care program until July 1.

F.W.A. funds have now helped to establish or continue 299 war nurseries and child care centers for 10,885 children.

Rhode Island's plan for part-time orphans of war industry is the most comprehensive to date. Fourteen commu-

nities in the state have nursery schools in operation. F.W.A. is defraying half the expense; the rest comes from fees from the mothers and from local contributions. It's being treated as a state not a local problem there.

PRE-INDUCTION EXAMS

April 2 is the day on which thousands of high school and college students will take their qualifying examinations for the college training programs of the Army and Navy.

The Navy V-12 groups thus selected will report to colleges and universities on July 1 and November 1 for four 16 week terms. Those training for specialized services will stay from six to twelve terms. Then they get specialized naval training leading to commissions.

Success in the Army examination does not necessarily mean a chance to enter college for the specialized training program or for assignment to an officer candidate school upon induction into the Army. Subsequent Army tests will be given.

PRIORITIES

Apply to the regional W.P.B. office for authority for construction costing less than \$10,000 not federally financed. This ruling became effective March 8. (Story on page 60.)

PD-1A forms have been revised. File all such applications with the nearest W.P.B. district office, not with Washington. After April 15 applications on the old form will not be accepted. (Story on page 60.)

If your school or college is training any men for the armed services it has a chance of getting a commercial dishwashing machine. No soldiers or sailors, little chance! (Story on page 62.)

SCHOOL LUNCHES

Food for school lunches and for the school feeding of the children of working mothers will be purchased from local merchants and farmers under the new Food Distribution Administration, which recently absorbed the Agricultural Marketing Administration. The local sponsoring organization buys the food and is reimbursed by F.D.A. This eliminates warehousing and transportation problems.

New school lunchrooms total 650 in war-affected areas as a result of Office of Education recommendations for space and equipment for lunch purposes in the F.W.A. building expansion program (Lanham Act funds). W.P.B. gave the needed priorities.

"CONVENTION NEVER HELD"

The A.A.S.A. canceled convention (covered by The NATION'S SCHOOLS last month in 11½ pages of summaries) took to the air from March 17 to 27 when the national networks gave considerable program time to speeches, round tables and panel discussions.

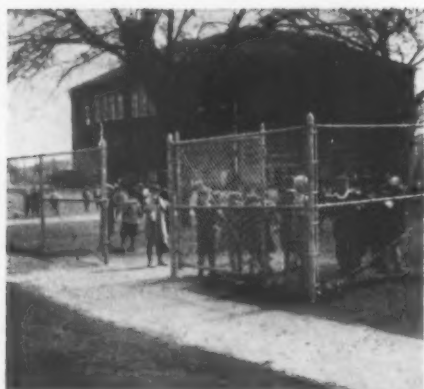
CRIMINAL NEGLIGENCE

"Failure to institute and perfect air raid drills verges on criminal negligence. American schools are not exempt from enemy attack," warns O.C.D. "The thing to remember is that the time factor is decisive. And it is always short." (Story on page 17.)

MORE MUSIC

Civilians, including schools and colleges, are permitted to buy musical instruments, 50 per cent of the stock having been released. B-flat clarinets, bugles, trumpets, frozen last June, have been released. (Story on page 60.)

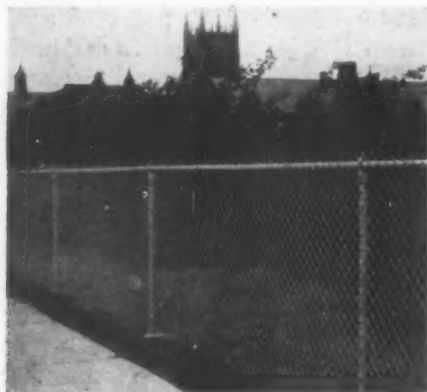
For full news coverage of the month, see news section beginning on page 58.



The safety of school children demands fence protection. Continental Chain Link fence is widely used by schools and universities.



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WAR HERO

learned about liberty in history class



America's future depends on Young America, now more than ever. Good heating and ventilating protect the health of our future citizens.

JIM, who was studying American History in school not many years ago, is fighting to preserve America's ideals of liberty today. Like thousands of our heroic air fighters, he gives his best because he knows and loves his priceless heritage.

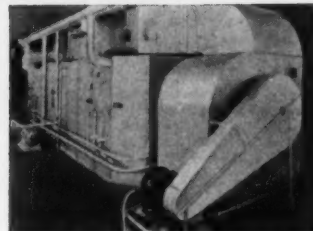
Jim learned valuable lessons in good health, too, at school — and nothing was left undone that could protect it . . .

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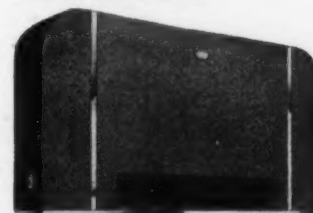
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Questions — AND ANSWERS

Physical Training in Small Schools

Question: How do schools solve the problem of providing the new physical education programs calling for five periods a week? What is included in the program besides exercise? I'm most interested in solutions for small schools.—H.F.M., N. D.

ANSWER: Increase the number of periods in the school day. Use your physical training facilities every period. Utilize vacant rooms, large hall spaces and the out-of-doors when weather will permit. Close order drilling and the manual of arms with wooden guns, which can be made in your industrial arts department, will do much to popularize your physical training course. Community social and folk dancing should also be a part of the health education program.—FRANK A. JENSON.

Cold Air Shafts Not Functioning?

Question: The cold air shafts that run from the school basement to the roof do not function in the anticipated manner. Instead of air going up the shaft, it comes in. This makes it almost impossible to heat the rooms. In most instances we have boarded up these cold air ducts, but then we have the problem of heating all the air instead of forcing it out with the hot air. The shafts in the basement work the poorest, those on the first floor better and those on the second floor best. Can you offer any suggestions for remedying this situation? J.E.D., S. D.

ANSWER: The meager description suggests a gravity ventilating system for classrooms, probably by a hot air furnace system. The difficulty seems to be that cold air backs down the vent shafts. This will not happen if the vent shaft tops are high enough above the roof to avoid wind-eddy reactions.

In any thermally circulating hot air heating system the tendency is for the warm air to favor the top story and for the second story to heat much more slowly. The only remedy is to throttle the volume of air going to the second story until the two equalize. The second story classroom generally needs about one half the flue size required for the first story in delivering the same volume of air at approximately the same temperature.

My suggestions are:

1. If the vent flue tops are not well above the peak of the roof, extend them.
2. Install eight dampers in all vent flues. See that these are closed when the building is unoccupied and open to remove the colder air at the floor when

the building is in use. When the vent flue dampers are open, the outside air intake dampers for the heaters in the basement must be open so as to supply the air that is to be removed by the vent flues.

3. Reread the instructions furnished by the maker of the heating plant and reinstruct the custodian.—S. R. LEWIS.

Citizens, Educators Share Problems

Question: How can any degree of professional responsibility be maintained among teachers who belong to the American Federation of Teachers (A.F.T. or C.I.O.) and who believe that their day's work should begin and end on the split second as in industry and who believe, also, that all administrators, boards of education and taxpayers are enemies of teachers?—A.McD., Mich.

ANSWER: This question, as stated, implies attitudes that do not prevail. Democracy in administration does not mean that the individual regards administrators, boards of education and taxpayers as enemies of the individual or group. Unless the professional organization is willing to assume responsibility for the elements that contribute to good teaching, other organizations are likely to assume the responsibility.

There is a professional responsibility on the part of teachers to see that a job is done. The community through its board of education also has the responsibility to see to it that conditions of work and living make possible a qualitative effort on the part of the teacher.

What is needed in America is organized competency and citizen understanding. This cannot be accomplished by protecting the unfit and by failure to bring citizens together in an advisory capacity to discuss common educational problems, including personnel problems. Indoctrination for professional responsibility starts in the training institutions.—ALONZO G. GRACE.

Maintaining Asphalt Floors

Question: What is the best method of maintaining asphalt floors? What about oiling them?—F.T., Okla.

ANSWER: When an asphalt floor is installed in a room with the ordinary temperature of living quarters, it will require a lapse of considerable time for the asphalt tile to become thoroughly embedded in the cement used to adhere the tile to the subfloor. The adherence will take place more quickly in a warm

room than in a cool room; it is important that the edges of the asphalt tile be completely embedded before wax is applied. If any wax were to filter through the cracks in the tile it would prevent adhesion.

While the adhesion process is taking place the floor should be cleaned with a cloth dampened in water only. After the asphalt tile is perfectly adhered to and conformed to the surface of the subfloor, the floor may be waxed with a *water wax only*, preferably of a nonskid type.

The floors usually can be kept clean by going over them with a mop dampened in water. A good tool for this purpose is a push broom brush up to 36 inches long which has been inserted in a knitted mop cloth about 3 inches longer than the length of the brush. A hole should be cut in the mop cloth through which the brush handle can be inserted in the brush. When the cloth becomes soiled it should be removed and washed. The process should be repeated until the floors are clean.

Floors that are comparatively clean, with the possible exception of dust settlement, can be cleaned with a dust mop. When necessary, an asphalt tile floor can be scrubbed with soap and water. Under no circumstances should oil and grease be allowed to come in contact with such a floor as these agents act as solvents for asphalt tile and would ruin the surface. For the same reason no waxes having oils, turpentine or other similar ingredients should be used.—E. H. ST. ONGE.

Noise Transmitted by Windows

Question: What is the best plan for soundproofing the band room? We have installed a "new wood" ceiling but that does not prevent the noise from reaching the elementary grade room above.—R.G.I., Minn.

ANSWER: It is probable that windows permit considerable telephoning of noise. If you wish these to be scientifically soundproofed, it is suggested that a competent sound engineer be called in for consultation.—RAYMOND V. LONG.

Every Teacher a Guide

Question: How can a guidance director make every teacher a guidance teacher?—A.H.N., N.Y.

ANSWER: Educational, social and vocational guidance is an integral part of the instruction program. It should be conceived, developed and administered as an aspect of all instruction. Only as the teachers are trained in this concept of the instructional policy, given opportunity and sufficient time as part of their work load to perform these essential services is it possible to make them thoroughly conscious of need. In my opinion the appointment of a specialized director of guidance is putting the cart before the horse. Guidance should grow as part of the total curriculum.—A.B.M.

War in the classroom



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On the job helping schools keep the pace in wartime

LOOKING FORWARD

Victory Gardens Imperative

THE general food shortage in the United States is much more serious than has been admitted by governmental agencies until recently. The increased demands of our armed forces, the need for supplying Great Britain and Russia with essential commodities and the use of food as a secondary weapon in territories acquired from the Axis by conquest, all combine to place an unanticipated strain on American resources.

The federal food authority believes that some of the impending shortages may be relieved if urban and suburban dwellers will supplement the professional effort by making and caring for Victory Gardens. Vacant lots, backyards, large lawn areas, golf courses, parks and even school sites can be used for this purpose. There are two immediate needs: (1) to create an active interest on the part of children and adults and (2) to keep these enthusiasms within rational and sensible bounds. This is a job that the schools can do.

In the favorable climates of the South and Southwest, gardens have already been planted and will be replanted several times during the long growing season. Gardens in regions with shorter growing seasons will be planted in April and May. Under favorable conditions, several successive plantings may be possible. Gardeners should be stimulated to raise green vine and root crops, the first for immediate consumption and canning and the second for winter storage.

Seeds are plentiful and so are certain general types of fertilizers. There will be an unusual shortage of garden tools, which will probably necessitate the need for neighborhood cooperation in the use of these instruments.

In urging the need for Victory Gardens, teachers should bear in mind the fact that too large a garden and high amateur enthusiasms in April and May produce lame backs and indifference in July and August. Small, intensively cultivated plots produce astounding quantities of vegetables.

Milton Chase Potter

THE retirement of Milton Chase Potter from the superintendency of the Milwaukee public schools at the close of the current academic year is more than merely the removal of a well-known and well-liked

individual from the administrative stage. It marks the end of an educational generation as well as the last of a fast-disappearing administrative type.

With the exception of Frank Ballou of Washington, Milton C. Potter is the last of a group of 15 men who furnished the leadership and dominated the American Association of School Administrators for a generation following the first World War. This group included such notables as Beveridge, Boynton, Broome, Butterfield, Cody, Condon, Ettinger, Graff, Jones, Hartwell, McAndrew, Mortenson and Payson Smith. These men were responsible for the reorganization of their association after the first World War that placed leadership and power in the superintendents instead of in the professors of school administration and that, later, changed the old political method of electing the president for the present, generally approved preferential ballot. Many of this group were strong, farsighted, capable leaders while others were primarily "platform-jumpers," "atmosphere boys" and upholders of the most reasonable and acceptable thesis that "things of primary importance should come first." Potter belonged to the first category.

Milton Chase Potter was born on a farm in Allegan County, Michigan, on Nov. 5, 1873, attended country and small-town secondary schools and was graduated from Albion College in 1895. He spent a year in Europe studying German educational practice and took his master's degree at the University of Chicago in 1905. In the same year he married Camilla Barber, one of his students at Superior, Wisconsin.

Potter started teaching in 1897 as teacher-principal at Oak Park, Illinois, and for the next seventeen years successively served as high school principal at Superior, Wisconsin, and as superintendent at Idaho Springs and Pueblo, Colorado, and St. Paul, Minnesota. He was called to Milwaukee as superintendent in 1914 and has remained there for twenty-nine years.

Activity in professional organizations brought Mr. Potter such honors as president of the Colorado and Wisconsin state teachers' associations, director of the N.E.A., president of Schoolmasters' Rotary and, in 1932-33, president of the Department of Superintendence. For his services to public education in Colorado, the University of Denver conferred the degree of Litt.D. in 1915. He is author or co-author of successful textbook series in English, the first of which

was produced in 1917. He became a member of The NATION'S SCHOOLS' consultant staff in 1931.

Through his long career, Milton Chase Potter has been one of the educational stalwarts, a powerful and colorful personality always aggressively eager to improve the public schools and their product. He has been essentially a dynamic leader who preferred to talk directly to the people instead of through the printed word. The secret of his strength with colleagues, parents and even those who dislike paying high taxes for public education lies in his fundamental honesty and his ability to translate ideals and practice into simple but robust language. Retirement cannot change his flavor.

Teach the Truth

SLOWLY but certainly in the teaching of temperate living, still one of the most emotional instructional areas, the ugly clouds of propagandistic misinformation are fading before the strong light of scientific discovery and truth. As a result of foggy emotional attitudes, state educational statutes are cluttered with the mandatory admonition to "teach the evil effects of alcohol and narcotics." The powerful sectarian and nonsectarian pressure groups responsible for great masses of misinformation fed to children of past generations under the guise of "temperance education" are still active and still militantly aggressive. Most of the elementary and secondary science textbooks still carry the conventional misinformation on the "evil effects." Too much emphasis is still placed on one type of "temperance."

In certain sections, better informed parents and scientifically trained educators are beginning to veer from propaganda to scientific truth. The recent action of the board of education of the District of Columbia in rejecting a conventionally organized "health course" on the bad effects of liquor and nicotine, heavily loaded with the cumulative misinformation of generations concerning the terrible results of "alcoholic indulgence," is to be highly commended. The new course will be written by capable doctors in terms of the actual scientific evidence available instead of the hysterical possibilities for shocking children.

In Michigan the new mandatory statute "to promote in the public schools of this state, and among adult groups, scientific instructions as to the physical, psychological and sociological effects of alcohol and the benefits of temperance" is a big step forward. As a result of this statutory change, increasing emphasis on all aspects of temperate living may be noted in the bulletin on "Temperance Education" recently published by the state department of public instruction after compilation by special state professional committees on health education and temperance education.

In this bulletin, temperance education is no longer set apart to be considered a preachment of "ten minutes daily on the evils of alcohol and tobacco" but is rather

a continuing study of the bad effects of all types of intemperance as shown by scientific experimentation and medical evidence. The idea of moderation in eating, working and playing is the central theme of the entire curriculum.

Hats off to Georgia

EUGENE TALMADGE, late fascist-minded governor of Georgia, does not believe in the freedom of learning or the freedom of teaching. He wanted to cut public education to his own measure and to his own purposes. To this end he first secured control of the state board of regents and then had it discharge President Marvin S. Pittman of Georgia State Teachers College, a sturdy and free-spoken individualist with sound ideas about academic freedom and a will to fight for these ideas. Talmadge also discharged Dean Walter D. Cocking, Iowa-born and Columbia-educated progressive dean of education at the University of Georgia, as well as a number of other educators.

Smart politicians usually steer clear of public education since it involves not only large professional organizations but also the children and their parents. Mr. Talmadge had been so successful in manhandling other activities and individuals that he apparently lost all sense of proportion. Storm clouds slowly gathered. Regional accrediting associations removed Georgia schools from approved lists. Secondary school graduates could not enter out-of-state colleges without examinations; college graduates were no longer accepted in professional and graduate schools or licensed for out-of-state practice. Faculty members in the Georgia schools began to seek more favorable teaching conditions. Students protested and so did parents. Newspapers entered the fight vigorously. The senseless and dangerous action of an autocratic executive became a political storm center. Leading newspapers and powerful state leaders united behind the candidacy of Ellis Gibbs Arnall. The storm broke violently over the educational issue and Eugene Talmadge went down to muttering defeat in November 1942.

Governor Arnall appointed new regents immediately after taking office. The new regents, in turn, reappointed Doctor Pittman as president and Doctor Cocking as dean. President Pittman has returned to his former office, but Dean Cocking decided to remain as chief of the educational services branch of the Office of Price Administration in Washington. The voluntary accrediting and professional agencies lifted the educational interdict and everyone seems well pleased.

This conflict has proved several facts: (1) that popular control of the education function by states is a safeguard against misdirection or misuse of the vital education function over the long pull; (2) that the interest of the people in public education is still deep and will rise to the occasion when education needs defending, and (3) that the value of voluntary organization in a democracy to create public opinion and pressure that

will protect and improve our public education is high.

One more step remains for the people of Georgia: The board of regents should be elected directly by the people to prevent possible future interference.

Outside Work

INQUIRIES from the field indicate that in defense areas the carrying of outside jobs by teachers is becoming a serious consideration for superintendents and boards of education. The problem may be generalized somewhat as follows: The majority of teachers are carrying much heavier loads by having late afternoon and evening work in rationing and in working with special adult groups in first-aid teaching, civilian defense, special help to service and working mothers and many other extra tasks. A minority of men and women teachers have taken afternoon and night-shift jobs, from 4 until 12 o'clock, in defense plants. Their argument is that shortage of defense workers makes this two-job program a patriotic necessity!

The extra-job practice raises two administrative problems. The teachers who as a professional obligation put in long hours of overtime each week without recompense see that the "two-jobbers" are excused from voluntary community war work and, in addition, are more than doubling their salaries by working afternoons and evenings. The more professionally minded teachers feel that their disinterestedness carries a penalty. This is a delicate problem, particularly in those districts in which no adjustment of salaries has been made to allow for decreases in purchasing power. Principals and superintendents have noticed that individuals who work eight hours daily in defense industry have little energy for their teaching. It is manifestly impossible for any person, particularly in middle age, to work from eight in the morning until midnight and maintain productive efficiency.

It is a delicate problem and somewhat complicated by the emotions surrounding the war effort. Some superintendents maintain that it may be solved by laying down the ukase that a teaching contract means that a board of education buys the total services of an individual and may determine how free after-work time shall be spent. Others believe that even a public agency buys only a specific unit of effort and hence has no legal or moral right to inquire into what the individual does with his leisure.

The first solution would be dangerous to the democratic way of life. To assume that a public agency buys the complete life of an individual when contracting for teaching or other service is contrary to American tradition and practice. Carried to its ultimate conclusion, this would produce a condition almost akin to slavery. At best, it would represent the height of regimentation! The teaching profession should strive mightily and eternally against the concept that acceptance of teaching contracts means restrictions on individual freedom after the day's work.

The most desirable method of meeting the two-job problem now and in the future should be confined to appraisal of the work within school organization. All professional and nonprofessional personnel should be selected, hired, appraised and continued in or dismissed from service on the basis of its direct and indirect contribution to the efficiency of the instructional process. In other words, the choice of outside hobby or economic activity rests with the individual. The school's only request may be expressed as follows: "The first demand on your time is the use of your leisure for refreshment and preparation."

The first professional obligation is to be in the best physical condition to carry on teaching dynamically and efficiently. If outside activities interfere with efficiency of operation, the teacher may be logically given freedom of choice as to whether teaching or outside work is more important. Low levels of teaching or administrative service are sufficient reasons for termination of contracts. Readjustment of salaries might be a powerful factor in finding a solution.

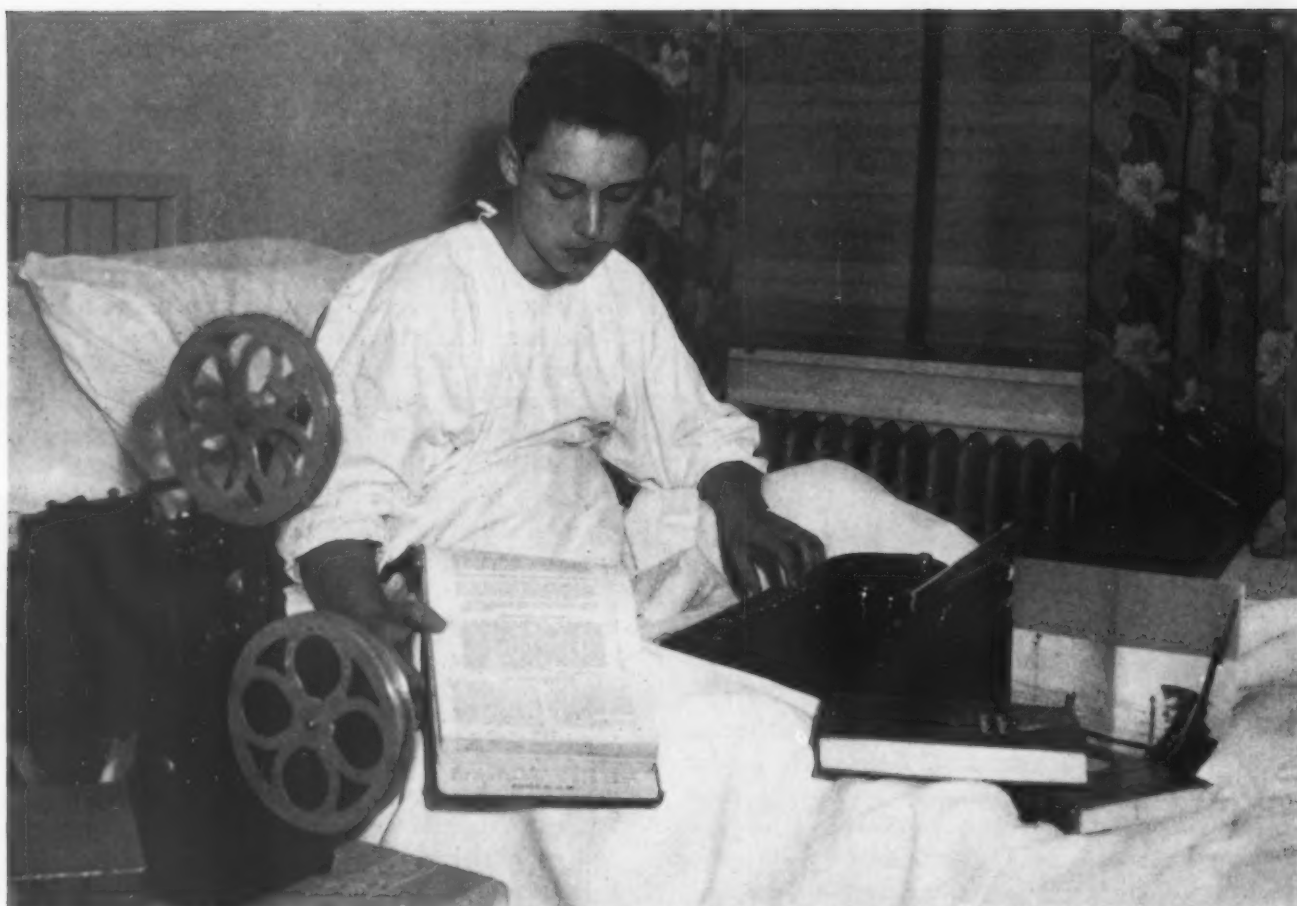
Cooperation Essential

THE federal government has quietly but repeatedly requested the voluntary postponement of regional and national conventions of all categories until after the war in order to conserve vital transportation facilities and also to reduce all expenditure not essential to the immediate conduct of the war. Many associations and organizations have cooperated wholeheartedly but others, including quasi-federal pressure groups, have not done so. Joseph B. Eastman, director of defense transportation, has been criticized for permitting quasi-federal agencies to meet while other groups have conformed to all restrictions.

It now appears that Mr. Eastman is not to blame. Every time the Office of Defense Transportation has suggested the elimination of a federal or quasi-federal agency gathering, the cries of the about-to-be-frustrated bureaucrats have resounded in high administrative circles and the O.D.T. suggestion has been quickly vetoed. Other interest groups have observed the technic and followed suit.

The formula for holding a nonessential convention despite war prohibitions now appears to be to load the program with federal executives. Since all of these executives feel that their platform appearance is essential to proper conduct of the war, all protests against the unnecessary meeting are swept aside by these vigorous exponents of self-expression. As a result, much unnecessary travel is still taking place and many nonessential meetings are being held. The example of teaching, medical and scientific groups in denying themselves the luxury of conventions in war time may be as a pattern for other interest-groups.

The Editor



Don't Get Up for School

ETHEL BONFIELD

BEDSIDE TEACHER
ST. LUKE'S HOSPITAL, CHICAGO
Assigned by
CHICAGO BOARD OF EDUCATION

"GOSH! Imagine having to go to school in a hospital. Can't a guy be sick in peace?" said John, a high school boy, when his doctor told him he would soon be well enough to have daily instruction from the bedside teacher. However, about a week later when John was considered well enough to start his work, his attitude had changed. By this time the novelty of the hospital had worn off. The radio was interesting only part of the time. The day seemed too long with nothing definite to do.

John was honestly interested when the teacher arranged a program for him similar to the one he followed at school but modified to meet hospital routine. He began his school work eagerly. Doing this he demonstrated what is obvious to even a casual observer, that the boy and girl out of school during the regular school term are not happy in being

separated from their companions. They long to be included in the activities that engage the interests of other boys and girls. School work as such may not interest them as much as the desire to be doing just what is expected of others.

As an entire hospital is the classroom of a bedside teacher, her pupils range in grade from those who are beginning elementary school to those who are finishing high school. Regardless of his grade, the pupil's mental attitude is always important. In the hospital a cheerful and healthful spirit of accomplishment must be created and sustained. The question is not whether a boy answers five or 25 questions correctly but rather whether he is interested in his own improvement, in the enjoy-

ment of those around him and especially in a feeling of responsibility to see a job completed. Maybe he cannot express it in words but his sentiment is similar to the one expressed by Louis Untermeyer:

*From compromise and things half done
Keep me with stern and stubborn pride
And when at last the fight is won
God, keep me still unsatisfied.*

It is of the utmost importance that the teaching methods employed in a hospital be adapted to the needs of the individual. Ellen had a spine injury and had to lie perfectly quiet. When the other children had an opportunity to see a motion picture, Ellen just listened to their comments and laughter but was unable to see the screen. However, the film was shown again for her special benefit by flashing it, of all places, on the ceiling. Holding books for any length of time tired her but her reading was taken care of by giving her

recumbent spectacles. These spectacles are arranged with mirrors and adjusted in such a way that the book resting on the chest is easily read.

With many pupils in different parts of the hospital there are constant demands on the teacher's time. Doctors' visits, special treatments, dressings, meals and baths make demands on the pupil's time. In order to get the greatest amount of educational benefit from bedside teaching the child gets intensive instruction in the school subject that is difficult for him.

As the teacher sat beside Joe in the boys' ward he told her how much he hated geography. However, while he was waiting for his broken leg to knit, he willingly took part in all other school activities. One day he even operated the moving picture projector when a film on fishing was shown. The younger children wanted to know why salmon came back to the quiet streams to die. Joe decided that he needed more information to answer that question. He was given interesting books on the subject but no geography.

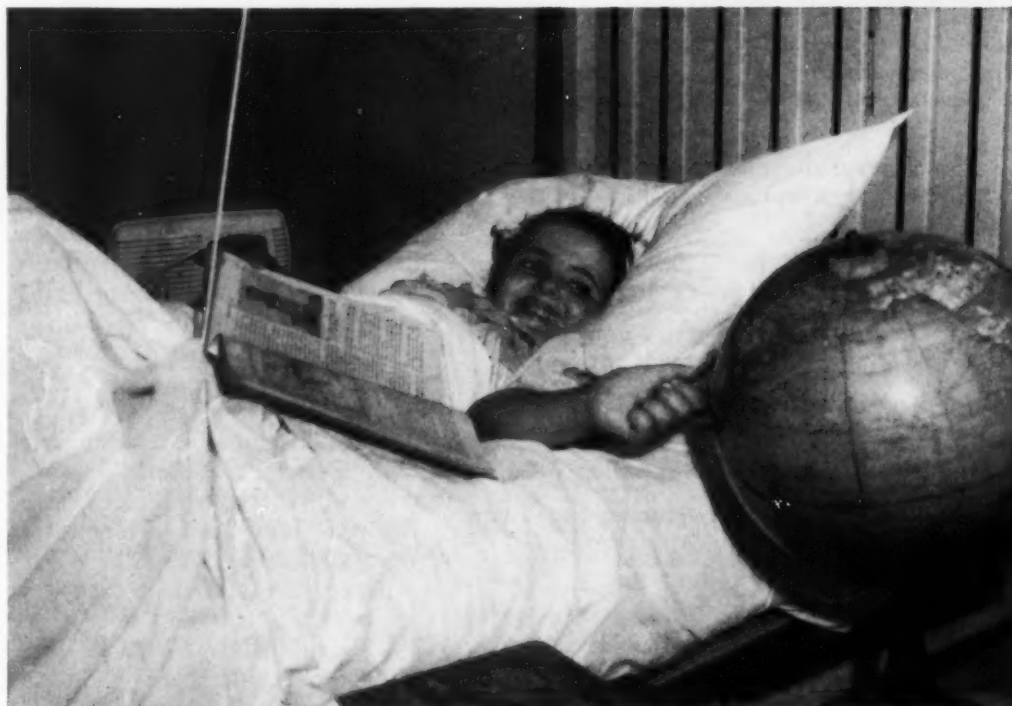
Later there was a film on Holland. Here, again, Joe realized that if he knew the location of the cities he would better understand why the people engaged in such various activities as making cheese, raising tulips and fishing. He used a globe but that was not enough. Then, of his own free will, he asked for a

Many children "make the grade" even when they must continue studies in a hospital bed. Read about these Chicago youngsters

On Opposite Page: Typewriter, motion picture projector, books and educational magazines are conveniently arranged to keep the high school boy abreast with his class work.



Above: A hospital book cart can be wheeled close to the bed so the pupil can indulge his own book tastes.



Radio broadcasts of educational programs is another link between public school and life in a hospital ward.

geography. Much to his amazement, he enjoyed his geography lesson more than any other. Too bad a leg had to be broken to accomplish that.

Bill's difficulty was arithmetic. When the teacher tried to help Bill solve the cost of two boxes of figs at 12 cents a box he told her not to bother as neither he nor any member of his family ever ate figs anyway. In the next bed a boy with brittle bones told the teacher that maybe he couldn't understand fractions but that he could write a book on fractures.

In the hospital each case is different not only in instruction but in disposition. Walter needed help in spelling but the doctor had hinted that it was best to let him have complete rest. In talking with the boy the teacher said, "Walter, forget about your spelling until you feel better. I'll give you two days' vacation and then we'll begin." That same afternoon Walter's principal visited him and expressed delight that now he would have plenty of

time to take care of his spelling. When she asked, "What did your teacher give you?" he replied, "Two days off."

The teacher finds that with the wise use of the radio pupils can accomplish many things. The high school boy who cared little for reading and found "A Tale of Two Cities" more than he could manage sat spellbound during a radio dramatization of the same book. One little boy in the hospital listened to a radio reading of original verse. He knew he could do much better, so he wrote:

*My father's spats
Reminds me of cats
Sitting on a fence
Without any sense.*

The pupil's day in a hospital is very different from a day in school. Here he finds companionship not only in other children and his teacher but also in the daily visits and friendliness of doctors, nurses and the many hospital workers who serve him and care for his needs.

Louie wished he had a fountain pen. He wished out loud, of course. A few weeks later on his birthday, his doctor, quite by accident, had an extra one in his pocket. Louie's sharp eyes did not overlook the fact that the extra one was new.

Bob had a minor injury and loudly lamented his misfortune. His expression was a study as he watched a smaller boy without a whimper let doctors and nurses attend to his painfully burned hand.

And so it goes—Joe leaves the hospital not only in good physical condition but also with an awakened interest in his school work. Ellen may have to spend many months at home but she has a wealth of pleasant memories gleaned from the films and lantern slides she has seen. Walter has mastered his spelling difficulty and is more alert to the needs of those around him. Although Bill may not have cultivated a taste for figs, he has acquired an interest in arithmetic.

It is not a surprise nor is it an accident that the pupils leave the hospital and return to their own schools healthier, happier and "up to grade." It is the result of a carefully planned program by school and hospital authorities. By their combined efforts a routine is established whereby each child may reach his highest possible success. The school work gives the pupil interest and stimulation because it is arranged to meet his needs and abilities. He has a feeling of satisfaction in noting his progress from day to day.

John, who at first wanted to be left in peace during his long stay in the hospital, is grateful for the help he received there. When he returns to school he will take his place in his own grade. What might have been an unfortunate experience was in reality an unusual opportunity. Many lessons were learned that could not be found in school books. A new confidence and self-respect are his because he knows he has completed a job in spite of pain and physical discomfort. He even agrees with his doctor that the daily instruction and frequent encouragement he received from the bedside teacher were good ideas after all. He experiences that same surge of joy that an aviator feels who has kept "on the beam" when the odds were against him. He made the grade though he didn't get up for school.

SPRING SAFETY SUGGESTIONS FOR PLAYGROUNDS

1. Check carefully each piece of playground apparatus. Recheck periodically to ensure its safety. Make necessary repairs at once.
2. Replace, if procurable, outworn or poorly constructed equipment.
3. Instruct children in the choice of safe play areas.
4. Do not permit children to ride bicycles on play areas.
5. Set a good example of safety behavior for the pupils.
6. Tell pupils not to take part in games with pencils or other sharp objects on their person.
7. Plan softball or baseball diamonds so that there is no possibility of players' tripping over or running into wires, posts, fences or the school building.
8. Collect all broken glass, metal scraps and nails before the grounds are used. Fill in holes and ruts before groups are permitted to play on the grounds.
9. When relays and running games are held, allow sufficient space so that pupils can stop before reaching the wall, fence or other obstacle.
10. On playgrounds located near roadways and streets, adopt some safe method of retrieving balls that roll or bounce into roads or streets.
11. Check and repair baseball backstops and base lines before practice and games are held. Inspect bleachers for safety of spectators.
12. Keep players and spectators at a safe distance during batting practice.
13. Keep spectators at a safe distance during early practice and during shot-put contests and other throwing events.
14. Supervise all games carefully.

—News Letter, Division of Health and Physical Education
Delaware Department of Public Instruction

Tell It to the

ARMY and NAVY

Are we going to sit back and let the armed services tell us that "Liberal education is out for the duration"?

EDWARD B. ROONEY, S.J.

DIRECTOR, JESUIT EDUCATIONAL
ASSOCIATION

CONCERN for victory in peace as well as in war is the core of the Roosevelt-Churchill philosophy of war.

The sincere disagreement among leaders on the merits or the necessity of war vanished on Dec. 7, 1941. Pearl Harbor galvanized the entire American people into solid unity. Leaders in education were not the last to mobilize their forces. They saw that the educational institutions of the country had a vital contribution to make toward winning the war. For this purpose they placed their institutions with all their facilities, physical and academic, at the disposition of the government to be used in the best way possible for what would henceforth be the common goal of all American activity.

Courses and schedules were revamped; accelerated programs were put into operation; the colleges and universities went on a twelve month basis to supply the need for trained men. That some plans were adopted without mature deliberation is but another way of saying that men, not angels, were acting. But no one can say that education did not give an immediate response to the country's call.

Keep Eyes on Army-Navy Plans

As time went on and the draft age was lowered, the thinking of military officials on the most effective use of educational institutions slowly evolved through the stage of enlisted reserves into the Army and Navy specialized training programs, published in December 1942. Just how these programs will work out remains to be seen.

Educators had manifested a justified impatience at the long delay in publishing these plans. Indeed, they disagreed on the merits of the plans themselves. I hope they will continue to watch with critical eye the execution of the plans. It is my conviction that what is most needed today by educational leaders is vision and courage: vision to see and courage to insist that education make its best and greatest contribution to winning the war and the peace. Such vision and courage would lead educators both to demand that a much more extensive use be made of educational institutions than seems at present to be planned and to insist on the place and need of liberal education, even during or, better still, *especially during* war time.

Making Use of Small Colleges

Of course not all the colleges of the country have the facilities of Harvard, Chicago or M.I.T. But a large number of them have adequate facilities to give the basic training, even in the physical sciences, required by any specialized Army or Navy training program. Even before the war many well-equipped colleges of arts and sciences were giving the first and, in some instances, the second year of an engineering course. Nothing that I have heard of in the basic course offered by the Army Air Corps would make it impossible to secure such training even in the smaller colleges of the country.

Granted that the utilization of smaller colleges will require a great-

er number of military officials to supervise the training, there will undoubtedly be compensating advantages from the intimate contact between professor and trainee that is possible only in small groups. Moreover, by so spreading the educational training program of the armed forces, the desired outcome would be more quickly secured; the vast resources of the smaller institutions of the country and their trained personnel would be put to the most efficient use, and no worth-while institution would have to be counted as a casualty of the war. Fortunately, as I write this paper, there are indications that military officials in charge of the execution of the educational program of the armed forces are thinking along these lines.

But why the need of emphasis during war time on liberal education? The reason is briefly this. Colleges, of course, must dedicate themselves wholeheartedly to winning the war, but as educational institutions they are also dedicated to laying the foundations of peace. To turn colleges into mere vocational training institutions would prevent them from making their unique and highest contribution to the total war effort.

An Unnecessary Tragedy

For those problems that will confront the world at the cessation of hostilities will be gigantic. Only if we have men and women trained to meet and cope with the problems of peace will victory be lasting.

Breadth of vision, understanding of man and of nations, knowledge of the past and a clear concept of

the decent world we all want—a world ready to accept and live by the Four Freedoms—cannot come from the narrowly confined functional training that occupies so large a place in Army and Navy programs. These things are the products of a liberal education.

Of necessity, opportunity for liberal education must be sharply curtailed during the war, but its total disappearance from the educational world, even in time of war, would be a grave and unnecessary tragedy. England and Canada are no less interested in winning this war than are we in America. Yet both these countries have made provision for keeping liberal institutions open for the duration.

MacLeish's Dilemma

In an article in the *Atlantic Monthly*, February 1943, Archibald MacLeish, reviewing the double duty of education to train for war and to prepare for peace, sees education in a dilemma. How can youths be trained to win the war and at the same time be given "that understanding of the common past, the sense of the common future, the mastery of the tools and implements of the common life which they must necessarily have . . . if they are to turn the military winning of this war into a human victory for the things for which this war is fought"? One duty seems to preclude the other.

"The war imposes duties toward the generation of young men which cannot be fulfilled because the war will not allow you [educators] to fulfill them. . . ." Surely then the lot of the educator today is not a happy one. Whichever way he turns he is caught on the horn of an uncomfortable dilemma.

Or is he? There must be a solution; for it is unthinkable that we should be bound to two opposite obligations. But to resolve the dilemma, more clear thinking and less emotional talking are necessary. Clear thinking should lead to the conclusion that since the business

of teaching and training American youth has been the office of educators, educators should also have a large say in determining the best way to meet the twofold duty of training for war and of training for peace.

Never was there a time when bold and courageous thinking and speaking were more necessary on the part of educators, since never before have they been faced with so difficult a problem. They must not be overawed by ex cathedra pronouncements of Washington officialdom. Now, if ever, is a time for exercising our academic freedom.

Had educators been more insistent on their right to have their say in the beginning, perhaps there would be less confusion in the educational scene today. Perhaps there would have been no ground at all for Mr. MacLeish's dilemma. Why, for example, should not educators point out that the principle laid down by the War Manpower Commission, "All able-bodied male citizens are destined for the armed forces," is simply false?

If such a principle as this were carried to its logical conclusion, civilian life would have to cease. More than that, even our military program could not go on, since it depends so closely on civilian work. The meek acceptance by educators of such pontificating has not helped us to train American youths to win the war; nor will it help in training them to win the peace.

No Military Dominance

Educators have shown an example of unstinted and unquestionable loyalty in seconding the war effort. They promised and they have given their fullest cooperation. But they cannot and must not abdicate their duty to teach. They must have the courage not only to deny that "liberal education is out for the duration" but to insist that even in the Army and Navy specialized training programs there should be at least a proportionate emphasis on liberal sub-

jects. Here, again, we can learn a lesson from Canada where the importance of liberal subjects to the complete training of an officer has been recognized.

Indeed, there is no reason to believe that military and civilian officials in charge of the Army and Navy programs will not accept helpful criticism and suggestions from educators. Should some of them, however, show unreasonable resentment to helpful criticism or refuse consideration to the suggestions of competent educators, then it would be our duty to remind them that America is fighting this war against political dictatorships abroad.

Educators do not propose to find themselves accomplices, through silence, in permitting a dictatorship, political or military, to be set up in America. History has taught them that dictatorships can be set up only when education forfeits its freedom and succumbs to unwarranted political or military dominance.

Must Teach Boldly

The war's challenge to educators, then, is a challenge to show vision and courage. They must see the rôle of education, of liberal education in particular, in the total war effort of the nation. And they must have the courage to teach boldly that unless wars are humanized by a realization of man's noble aims, they differ little from the fights of untutored savages or of wild beasts.

Vergil's epic of arms would have no meaning for men today had he not also sung of his hero and the goal of his hero's striving. "*Arma virumque cano*": only because man's noble aims are involved is the story of arms worth while.

Unless our soldiers and officers are given the opportunity to learn by liberal subjects the humanity of our aims, for them the war will be merely a war of vengeance and hate, and this will block, as Hoover and Gibson have shown it blocked in 1919, the possibility of a just, honorable and lasting peace.



How to Handle the Children

During AIR RAIDS

SCHOOL authorities are responsible for the safety, during school hours, of all children entrusted to their care. During a time of war this responsibility takes on added significance.

There is no single magic formula for safeguarding our children from bombing. In deciding what procedure will assure maximum safety to pupils and teachers during an air raid, a school administrator has two important questions to answer:

1. How much time will probably be available to get the children to shelter?
2. What is the best shelter available in the time allowed?

The local commander of the Citizens Defense Corps can help answer the first question. *The time factor is decisive. It is always short, rarely more than three minutes and never more than fifteen.*

With a deadline of three minutes, it is obvious that in most cases shelter has to be found either within the school or in its immediate vicinity. School fire drills set as their goal a minimum of one to one and one half minutes to empty a school building. This means that school children being evacuated during an air raid would have in most cases only two minutes left in which to reach shelter outside the school building.

Hazards in Neighborhood

The problems of each school building have to be related to the general hazards of the neighborhood. These include: (1) nearness to prime industrial targets; (2) nearness to non-fireproof buildings or to congested areas that constitute an extreme fire hazard; (3) proximity to landmarks such as rivers, bridges or hills.

Each building has its own particular features that may constitute haz-

ards in time of air raid. For example, a single stairway made unusable by explosion or fire would cut off all escape from upper floors. Wall-bearing construction (brick, stone, frame or stuccoed building lacking a structural steel skeleton) is subject to collapse from explosion. Nonfire-proof construction may be wiped out by incendiaries. Revolving doors without alternative exits have proved to be extreme hazards.

The greatest danger in classrooms comes from flying glass and fragments. A study should be made of the amount of glass in each building, including glass partitions. Some glass areas can be covered with boards, replaced by a flexible substitute or treated to prevent shattering.

In general, school corridors are much safer than classrooms as a place of shelter, but children should not stand near the doors. Basements offer special hazards from broken water or steam lines. The top floor is subject to more danger from direct hits of light incendiaries. Any intervening floors offer greater safety.

It is the obligation of school authorities to get each child into the best available shelter when the need arises, within the known time limit. This best available shelter will often be found in the school building. In some instances a building in the immediate neighborhood, a store or apartment house of structural steel and reenforced concrete type or the near-by homes of children may offer the best shelter.

Any cover is better than no cover at all. When school authorities have to decide between hazards of location and special building dangers, they will find it better to keep the children under orderly centralized control than to take a chance of having them outdoors when an actual attack begins. *It is no solution to evacuate children from a poor building to a good shelter too far away to reach within the known time*

limit. This would expose them to bombing out of doors, to the tons of shell fragments from anti-aircraft fire and to emergency vehicles moving at top speed.

On the other hand, when building hazards are exceptionally serious and better shelter is easily available within close walking distance, it is better to evacuate. Children should never be sent unescorted. In no case should they be dismissed from the building unless complete arrangements have been made for an alternate place of refuge in case parents are away.

The only safe step is to provide for air raid drills. Failure to institute and perfect drills verges on criminal negligence.

Parents need to be informed of the protection program of the school. In case of an air raid parents need to understand why they must not telephone or come to the school.

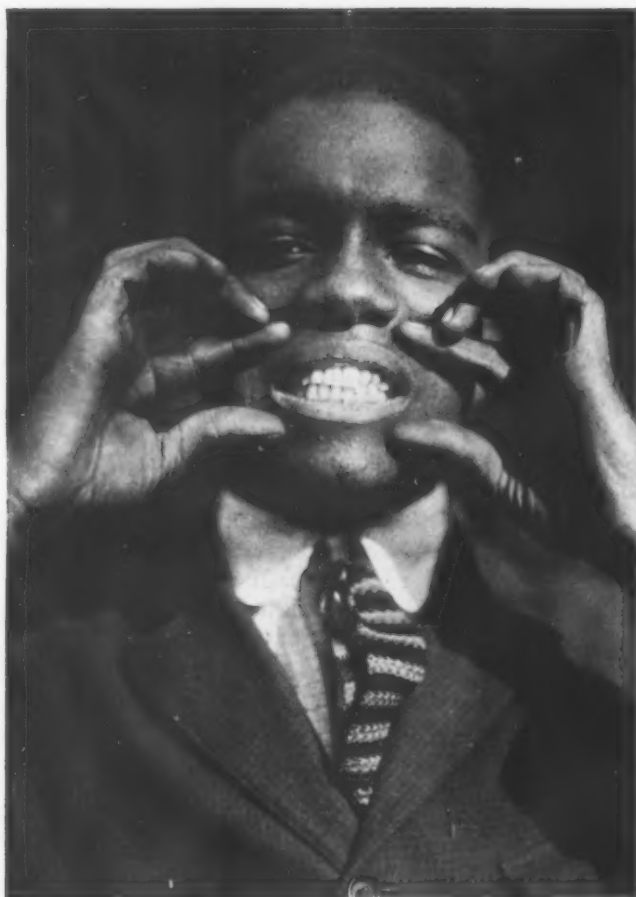
Help on Technical Problems

The problem of protecting school children from air raids has many technical aspects that require the advice of experts. The U. S. Office of Civilian Defense has established a nation-wide technical auxiliary service, which enlists and trains selected architects and engineers for service in their own community. This service is provided through local defense councils. Schools may obtain advice from the local building inspector, municipal and school engineers and architects, provided these men have qualified for such service by attending special courses of instruction.

School authorities are held responsible for "exercising due care" in protecting children entrusted to their custody against air raid attacks. The exact interpretation of what this legal responsibility entails will depend upon local law.

Neglect of precautionary steps possible to assure the safety of children is to invite tragedy—and a public accounting.

Abstracted from a fact sheet, Protection of School Children During Air Raids, released March 1943 by the U. S. Office of Civilian Defense, Washington, D. C.



It's Friendship With Colored Peoples or CHAOS

EDWIN R. EMBREE

PRESIDENT, JULIUS ROSENWALD FUND

Proud of white teeth and healthy gums, yes — but the barriers set up against him in this country cannot lead him to real racial pride.

WE IN this new world have been struggling toward democracy. On the whole we have made some progress not only in our political forms but in decent relations among the diverse groups who make up America. We have tried to remove the barriers against race, creed and color. We have given a measure of rights and opportunities to our minority groups. Most of us were becoming complacent about the progress of democracy in America.

But now we find we cannot wait for this slow and halting march. Our whole position is starkly challenged. Suddenly we find ourselves fighting a total war against a powerful coalition of those who hate democracy. And we find ourselves allied in this struggle with people very different from ourselves, some of whom we never thought of before as within the scope of democracy, people who have in common only their passion for freedom.

Allies and Potential Allies

Among the United Nations are many people of similar background: Caucasian blood, Christian religion, capitalistic economy, democratic gov-

ernment. But fighting in the same war and for the same general goals are three or four times as many very different peoples. Allies—or potential allies if we do not force them into the enemies' camp—are 450,000,000 Chinese; 350,000,000 people of India; 100,000,000 brown peoples of the Philippines, South Asia and the East India Islands; 120,000,000 Latin Americans, many of whom are proud of their Indian and Negro blood as well as of their European ancestry; 160,000,000 Russians passionately devoted to equality of all classes and all cultures, and such millions from the Near East and Africa as can free themselves for the struggle.

Zeal of One Tenth Is Lost

If we are to win either the war or the peace, we must prove to those allies that we want democracy for all men, not merely for white men. We have already lost battles because we failed to make allies of millions of brown people who would have joined the fight if they had thought that victory for England or Holland or the United States meant freedom for them. We have lost the zeal of

one tenth of the American people because they cannot see any advance in their rights and opportunities even if the United Nations win. This war against totalitarian enemies can be won only by total democracy.

Democracy of any sort is still new and imperfect. The history of the ages is autocracy, empire, caste. While Greece and Rome called themselves republics, they were really aristocracies ruled by a small minority of free citizens. The French and American revolutions gave some substance to the ideals of liberty, equality and fraternity, but looking back even that short span we see how far from full democracy those movements were.

"Master Race" Not of Nazi Origin

In France the revolution was by the bourgeoisie for freedom of the middle classes, not the masses. In America at the very moment that we were proclaiming all men equal and endowed with the right to liberty, we were holding one fifth of our people in slavery. Only within a century have all people been included even in our ideals. Democracy as defined by Abraham Lincoln is new. It is so bafflingly simple that, like Christianity, we don't take hold of it.

By an irony of history the idea of inherent rights of the people came into slow being in Europe and America at the same time that Europe was gaining dominion over the rest of the world. As the white peoples of Western civilization gained free-

dom, the darker peoples became more and more enslaved. This dominion that had come from arms and machinery soon created the pleasant illusion of racial superiority: the "white race" having a God-given right to rule the world, the colored races having an innate inability to rule even themselves. This myth of a master race had been nonchalantly accepted by most white nations long before Nazi Germany carried it to its absurd conclusion.

We all know—when we let ourselves realize it—that dark Egyptians, yellow Chinese, swarthy peoples of Greece and Rome held the pinnacles of power and of learning long before our forefathers crept out of their crude forest huts in Britain and Gaul. And we know that these shifts throughout history simply confirm the findings of biology and anthropology—that there is no evidence of innate superiority or inferiority in any of the so-called races of man.

But the few centuries of military and economic power gave the Western nations a belief that they were the chosen people. It is only a few decades ago that Kipling was writing so convincingly of the "white man's burden" to care for the "lesser breeds" and that President McKinley was piously starting America on our "manifest destiny" to rule the world.

The first World War did little to disturb this idea of racial superiority. It was chiefly a struggle within Europe. Had Germany won she would have demanded, among other things, a bigger string of colonies just as, having lost, she was forced to give her colonies to the victors. That war left white supremacy shaken by internal dissension but still intact.

This War Is Different

The present war is different. Almost the whole world is involved; peoples of all races are on both sides; the fight is not between nations or even races but between ideas. Freedom will win in this war only if it can present a solid front. Total democracy is called for today not only for humane reasons but in order to preserve our own way of life. We cannot save liberty for America unless we win it for all the other peoples who want it and are willing to fight for it.

America has given up one isolationist position. Even the stupidest

Our Chinese allies have a cultural heritage long antedating ours. To them, to Filipinos, to Mexicans and especially to Negroes we must apply democracy here at home. We cannot save a world that is half Nazi and half democrat.



Chicago Public Schools

among us now know that in the modern close and interdependent world the arms and economics of Europe and Asia are of direct concern to us. Now we have to learn that there cannot be isolation even in prejudices. We have to learn that freedom for India and the East Indies must be fought for as ardently as freedom for England or Holland, that democracy in China is all of a piece with democracy in Norway and in Alabama.

The world is too small for the outnumbered white races to live by themselves; it is too large for the white minority to dominate. We must prove that we are willing to live in fellowship with other races or we must live in chaos. This war will be only a prelude to still more bitter and consuming wars until the great masses of now powerful nations are accepted into partnership.

No Room for Colonial Status

The action we in America can now take to symbolize our acceptance of real democracy and to bring in the colored peoples of the world as real allies is to apply democracy at home—to Filipinos, Orientals, Mexicans

and especially to Negroes. Our denial of the full rights of citizenship to Negroes in America is the glaring sign of our race prejudice, just as England's rule of India and Burma is the sign of its color bars. American Negroes are our colonials. And there is no room, in the world for which we are fighting, for colonial status. We cannot save a world half Nazi, half democrat.

Attitude Changing Swiftly

To win this war and to build a decent and stable world we need only put into practice the principles we have long professed. The new world gives us a chance—and the necessity—to do this much faster than the old order allowed. Those who are filled with race hate will continue to resist change, perhaps with violence and bloodshed. They will struggle "to keep the nigger in his place" in China and in Georgia. A few human ostriches will try to keep America in isolation. But, in spite of struggle and stupidity, this war and the world that is being formed by it are shifting our attitudes toward race and color much farther and faster than we realize.

Grassroots STUDY of AFTER-WAR *Schooling*

- ★ **Changes in Instructional Program**
- ★ **Reorganization of Districts**
- ★ **Financing of Plant Construction**
- ★ **Better Provisions for Teachers**
- ★ **Equal Opportunities for Rural Youth**

IMPRESSED by the increasing difficulty of obtaining reasonable equality of educational opportunity at defensible outlays through an administrative organization designed for frontier needs in early territorial days, Michigan has started an intensive grassroots study of current educational conditions as a basis for devising a long-range plan for the improvement of structure, instruction, personnel, plant and finance in the interests of equal opportunity for rural youth.

Conducts Self-Survey

This planning program, a Michigan continuing self-survey, has been delegated by the governor to a 19 member commission, including representatives of agriculture, business and labor, as well as parents, teachers, superintendents and specialists in economics, education and sociology.

An unusual aspect of membership is the inclusion of six members of the state legislature, all of whom have made public education one of their dominant legislative interests.

As is characteristic of groups composed of persons having widely scattered personal interests, the first two or three meetings were confined to general discussion of the specialized and technical problems facing the schools. Following this lay-professional "intellectual sparring," there developed a high degree of unanimity on the approach to the study.

It was decided to make an initial statement of the place of education in our national culture and to set forth a method of approach and pro-

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cedure for desirable improvements in the educational program of the state.*

In relating the program of the schools to the national culture, the commission points out that, "American government has been built on the fundamental belief that there are no superior races and that the measure of a man or woman is his or her contribution to human welfare and progress." The members believe that toil and work have a place of distinction and that all contributions and those who make them are of relatively equal worth.

What the Plan Covers

The successful operation of government on the local level is observed to be a necessity for competence in self-government on the state and national levels. Universal public education provides one of the important means whereby democratic competence can be most quickly obtained. The public school as an extension of the home provides educational opportunity for each individual in keeping with his capacity to learn.

The commission has enumerated the accompanying seven principles basic to sound educational planning.

Principal factors involved in planning are instruction, administrative structure, school plant, personnel and finance.

*The Improvement of Public Education in Michigan, Report No. 1 of Michigan Public Education Study Commission.

The instructional program is of major importance since all other effort must revolve about it. The commission points out that education in the United States is a continuous process that begins with infancy and ends only with senescence. While the present legal pattern in Michigan does not include the span of life itself, there is provision for instruction from the preprimary years through graduate study. The instructional program must consider the individual differences of learners but must just as carefully avoid educational discriminations because of isolation, race, religious beliefs, social standing or economic status.

The administrative structure is regarded as being efficient when it meets the demands of a sound educational and social structure economically. Present day curricular demands calling for specialization of personnel and modern laboratories require relatively large concentrations of secondary pupils. A progressive reorganization of Michigan's 6300 school districts is recommended to provide for a more socially and economically efficient administrative structure.

Suggestions for Reorganization

Suggested reorganization in terms of community school districts contemplates providing: (1) proportional representation for urban, suburban and rural areas on an eight member board of education, (2) allowance of existing indebtedness to remain on the areas in which it was incurred and (3) provision for a part or all

of the cost of plant extension from either state or federal funds, or both.

Long-time borrowing to finance school plant construction is considered by the commission to have doubled the money outlay for most buildings and there is little doubt that the \$178,000,000 of outstanding debts on Michigan school buildings in the early days of the depression was one of the primary reasons why the people of Michigan adopted a 15 mill tax limitation amendment to the state constitution in 1932. It is estimated that the annual school plant costs normally range between \$7,500,000 and \$10,000,000.

The instructional efficiency of a school is considered by the commission to be dependent primarily upon the ability of the teaching personnel. Good teachers, however, gain in efficiency when they are working under favorable environmental conditions that provide for security in their civil liberties, protection during unavoidable illness, adequate retirement provision for old age and adequate salaries during efficient service.

Three factors of fiscal need are considered as (1) stability, (2) flexibility and (3) adequacy. The sources of funds may be the local community, the state and the federal government. Although no specific expression of the exact amount of support that each type of government should provide has been made, it is generally felt by the commission that the local community should provide enough to ensure continued local control of the instructional program.

Stages of Federal Aid

The active interest of the federal government in education since 1783 was considered by the study group to be an important factor in the development of public education in at least 35 states.

The first phase is represented by the unconditional land grants for public education in all of the public land states. With the advent of the second phase, grants became conditional. Certain conditions were imposed as a requirement for receiving such funds. State funds were matched "dollar for dollar."

The third phase of federal grants is concerned with vocational training in secondary schools. During the period of the third phase, which began in 1917, there were an "increased amount of direct and de-

SEVEN FUNDAMENTALS OF SOUND EDUCATIONAL PLANNING

1. The relationship between education and free government is of such a nature that the wealth of the state and the nation may be used for public education regardless of where the child resides or where the wealth is located.
2. The local community must maintain a large measure of control over the school program to safeguard the democratic process.
3. The function of the state in the educational program is one of improvement, reduction of inequalities, furnishing of leadership and ensuring of continuity of the program.
4. The state gives general direction and provides for necessary growth and freedom for local experimentation through mandatory statutes and regulations and permissive legislation.
5. The local education authority is the agency for putting the program of the state and the local people into operation.
6. The local board of education is the planning and appraising body with the executive function delegated to and exercised by professionally trained personnel.
7. Professional and nonprofessional personnel have the same relationship to social policy and social control in education as other citizens.

tailed federal control over the state and community programs and the growth of a dangerous tendency toward separateness between general and vocational education."

Other federal grants for education are found in the emergency aids since 1933. These emergency aids to meet depression conditions reached a total of \$188,842,000 in 1939. This figure includes the sum of \$877,700 for regular subventions and amounts spent through such organizations as N.Y.A., C.C.C. and W.P.A.

Aid for War Training

The present World War has brought another series of emergency expenditures by the federal government. Adult workers have been trained for war work. In the early days of the war many of these men came from the relief rolls but now the balance is shifting to women not hitherto employed.

While considerable effort is being made to obtain annual appropriations for the general school programs from the federal government, the Michigan commission points out two other proposals as being worthy of consideration. These proposals would provide subventions for capital expenditures and for the alleviation of individual economic inequalities.

To sum up the position of the study group concerning the place of federal aid to education, it is believed that the federal government cannot be ignored. On the other hand, it is thought that federal controls that result in danger to local self-govern-

ment by centrally controlled bureaus should be condemned. The commission voices the opinion that "The strength of the democratic form of government lies in the strength of the community and the ability of the people to manage their own affairs." The harmonization of federal leadership programs with a full measure of local control is regarded as a "delicate and involved problem."

Following his inauguration on Jan. 1, 1943, Republican Governor Harry F. Kelly, in his first message to the legislature, placed faith in the commission. He asked that legislation affecting the schools during the current session be limited to meeting emergency problems pending the final reporting of the study commission. Better to facilitate the work of the committee, Governor Kelly added the chairmen of the two education committees in the legislature, bringing the membership to 19.

Commission Is Bipartisan

Bi-partisan support of educational planning indicates a strong desire on the part of Michigan leaders to keep the larger educational issues free from the dangers of party politics. The commission will make full utilization of a number of state studies that have been completed recently. To augment these studies with needed facts, a staff of research specialists has been gathered. Since the state legislature contemplates another session in 1944, the study commission is making every effort to have its major report ready at that time.

FIVE STEPS

in helping maladjusted adolescent pupils unravel their emotional problems

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THERE are five definite steps in helping maladjusted high school pupils. The process may be spoken of as unraveling the pupil's emotional problems, when we have the personal or the subjective aspects of the situation in mind, or as helping the young person toward better personal relationships and a more active interest in work, play and recreation, when we have the objective aspects of the situation in mind.

The emotional side of the undertaking must be recognized in order to perceive clearly the focal center of all the symptoms of maladjustment; the participation of the pupil in various activities must be given attention as the best indicator of the success of any attempts to aid him.

There are no cookbook recipes governing personal relationships. Every adolescent will be an individual task; each will present his own peculiar life problem. Each of the steps in helping the pupil will require that the teacher-counselor possess insight into life.

1 The first step may be entitled the establishment of friendship. All human beings need friends. The poorly adjusted high school pupil needs a mature and emotionally stable adult friend. This need he either does not know how to fulfill or fails to recognize. To the maladjusted pupil, a friendly relationship with an understanding, wholesome, mature personality may be the essential factor to his stabilization. When the teacher succeeds in building up a friendly relationship, he brings into the pupil's life a stabilizing center.

The value to the maladjusted pupil of such a friendship does not consist of the teacher's good advice, nor is it limited by the teacher's knowledge. Just as there is a subtle satisfaction in watching a log burning, so there is a subtle kind of emotional alchemy in a sound relationship between a young person and a well-balanced adult, quite apart from anything the teacher may do actively to promote the interests of the pupil. If one needs analogies to picture such benefits, such a relationship can be likened to the importance of a catalytic agent in certain chemical changes.

When we consider the factors that favor personality difficulties, we gain added conviction as to the importance of an understanding friendship. Emotional tangles have their roots in disturbed personal relationships. In the end, these trace back to the dynamic interrelationships of feelings, attitudes and acts among family members.

The emotional relationship between father and mother is the original matrix in which the emotional life of the child develops. The character of the family matrix has its enduring influence because it works itself into the psychological structure of the individual.

The emotional disturbances from which the maladjusted adolescent suffers have arisen out of long continued disturbances in personal relations, particularly with those persons who are of subjective importance in the adolescent's life. The first step in the readjustment process is a sound friendly relationship with a mature stable personality.

2 The second step in counseling is getting the pupil to express his outlook. Out of friendship develops confidence. The maladjusted pupil generally feels the need of having someone to whom he can confide those things that relate to his central problems. The reason why he would like to confide these problems is because the act of confiding is felt as a release from a burden. The desire not to have others esteem him lightly acts as a counterbalance to speak.

It is not to be expected that the adolescent will come rapidly to the stage at which he does confide in the teacher, nor should the teacher appear anxious to elicit these personal secrets from the pupil. The pupil may, at times, need a little encouragement, but this ought not to extend beyond letting him know that you are willing to lend an ear.

The adolescent will have built up a conception of life, standards of success, ethical and moral ideals, ideas of what family relationships and standards of living should be. By these conceptions he judges not only other people but himself and the members of his family. To the extent that these important elements in his personal life fall below his ideals, he may foster within himself subjective secrets that oppress him. Often, with the telling of these personal matters, the signs of maladjustment will vanish because the tension created by bottling up the conflict between the youth's ideals of life and his real experiences will be greatly lessened.

It was in Nora's junior year in high school that her father began to drink excessively. Nora felt this as a personal shame which made her unworthy of her friends. She began to drop her friendships and to brood a great deal. After she had spoken at length to me about her father's drinking and discovered that I accepted her quite independently of her father's drunkenness, she no longer felt this as a barrier in her personal relationships.

3 A third step in pupil guidance is freeing the pupil from the domination of daydreams. Every emotionally maladjusted adolescent is a daydreamer, whether or not he



The Edison Institute

Out of every group there are likely to be pupils with emotional disturbances. Such pupils require wise counseling. Every adolescent presents an individual problem for the teacher-counselor.

is also a prolific night dreamer. The richness of his fantasies has some degree of inverse relationship to the poverty of his relatedness to real things and to other people. Fantasies are fictions more or less spontaneously created by the mind and picture situations or events that would give great satisfaction to the individual if they were realized. The dynamic of daydreams is unsatisfied emotional longings.

The fantasy life of the adolescent plays a double rôle in any maladjustment pattern he may have. First, the fantasies are a substitute for his lack of success in achieving a satisfactory relationship with real things and real people; second, fantasies interfere with directing effort toward a real adjustment because of the temporary satisfaction that they yield. It is impossible to overcome the tendency toward daydreaming by resolution; one must be able to reinvest his emotional energies or his values in real things. The method of doing this is via the pathway of the fantasies themselves.

Ruth had lived alone with her mother from her ninth to her fifteenth year, at which time her mother remarried. During this period, Ruth learned how to handle

her mother. The stepfather was a considerate but matter-of-fact man. He objected to Ruth's irresponsible attitude, which was expressed in her staying out as late as she liked, in her failure to do her school work, in her flighty talks about Hollywood and a career in the movies, in the telling of purely fictitious adventures as if they really happened.

As part of the program of getting Ruth to take a more serious and realistic attitude, I asked her to write out a story like those she presented to others as true experiences. She was also encouraged to join a dramatics club in which she could give some expression to her fantasies about becoming an actress.

The effort required to execute these projects not only afforded a release to her daydreams but also was self-disciplining. The very title that Ruth gave to a play that she wrote out for me was prophetic of the results that the kind of treatment here outlined achieved with her. The title was "The Dead End Kids Reform."

Fantasy material often gives the best possible clues as to the remedies that can be applied in achieving a more adequate adjustment to real things and thus a development of

personality, for these daydreams show at what points the emotional life is lacking in substantial connection with the world.

Fantasies either die by exposure to reality or else acquire a dynamic relation to the real world. When there is a dynamic connection between the fantasy life and the real world, we may more fittingly speak of the products of these activities as the work of the creative imagination.

There are different ways of giving expression to the contents of daydreams. Generally, the easiest and most natural way is that of telling about them. Some people, however, find that drawing, modeling or dramatizing them gives more complete satisfaction. Objectifying daydreams or giving expression to their contents in one of these manners helps the adolescent to free himself from their domination.

4 Fantasy can be changed into creative imagination. When the fantasies with which the adolescent's reality is interwoven are of a kind that makes it difficult for the youngster to make his energies effective in his own development, the counselor must try either to dissolve them or to transform them into something

that can come to grips with reality. For example, if the pupil feels embarrassment, fear or resentment toward some other person with whom he is brought into close contact, it is because he cloaks this other person in some illusion woven out of fantasy material. It is then a good idea to encourage the pupil to have a conference with this other person. This exposes the illusory content of his conceptions of this other person to the dissolving action of reality.

The importance of a technic of this sort is not that it promotes good will—though this is important—but that it operates to transform more or less constant elements in a given person's relationships to other people. The most significant aspects of an individual's psychology lie in his manifold relationships to the objective world and, in particular, to the world of other persons.

Other fantasies may have a constructive element. If such fantasies are brought into organic relationship with actual things, the pupil will be encouraged to substitute active imagination working with real things for indulgence in fantasies that have no dynamic connection with real things.

Many of Georgia's teachers and some of the neighbors were com-

plaining about her conduct. Her mother, who had been divorced, was working. At any rate, she did not know how to handle Georgia, who was beginning to show tendencies toward delinquency. Georgia had the habit of writing out the fantasies that passed through her mind on scraps of paper. She carelessly left many of these scraps lying around.

Georgia's mother brought some of these to me. One, addressed to the "Unknown," expressed her longing for romance and fun. Another, a crude pencil sketch entitled "Moses in the Bullrushes," had on the reverse side an announcement of her engagement to so-and-so. "It is hoped," a legend ran, "that the new couple will be able to make a better go of marriage than the bride's parents."

Georgia and the gang of boys and girls with whom she associated frequented a small confectionery some distance from Georgia's home. Here the girl told about her mother's newborn baby. She wove a fantastic story of the great amount of work that she was doing for the baby, who, she said, was sick with pneumonia. She was delighted with her new responsibilities, particularly since the baby was recovering.

The gang fell in with Georgia's make-believe and helped not only to give credence to the tale but also to spread it. When these tales reached the mother, she was worried. But here was an excellent chance for her to form a new bond of companionship with her daughter. This understanding helped to clear up the whole problem of Georgia's peculiar conduct and her tendencies toward delinquency. One of the most helpful steps, however, was getting a place in which Georgia could take care of a real baby that summer.

When dealing with fantasy material, the counselor must be careful to deal with it in such a way as to make the fantasy activity of the child come to grips with activities directed toward outer objects and persons. For many people the inner world has a powerful fascination; if the interest in this inner world develops in such a way as to create a great gap between the inner world and the outer world, too great a subjective tendency will result, with the possibility of later personality breakdown.

In working with the maladjusted pupil, the counselor must be careful not to interfere too much with the pupil's real world. He must be encouraged to do as many things for himself as possible. Otherwise, there is danger that the counselor will become a crutch, a necessary link between the individual's problems and their solution.

5 As a fifth step, pupils presenting particular problems should be referred to specialists. If a pupil shows no progress in adjustment, in spite of the friendly relationships and counsel of the teacher, he should be referred to such specialists as the school psychologist or a psychiatrist. If there is any possibility that the trouble arises out of some physical difficulty, the pupil must go to a physician. The pupil should be encouraged to take care of his physical needs and to follow out the instructions of the physician. The reasons for consulting a specialist should be made clear to the pupil himself. Particularly is it necessary for the pupil to understand who a psychologist or a psychiatrist is and what he does.

In relationship to pupils, the teacher must always remember that they are adolescents and that it takes time for any new development in these pupils to come to fruition.

Training Women for WAR

BEHIND the scenes there has been a gigantic training and conditioning program designed to prepare women for specific jobs in industry. Inherent fears of machinery and unfamiliarity with mechanical operations have had to be overcome. The success of women in adjusting to their new occupational environment can be attested by the outstanding production reports submitted by our war industries.

Women can be trained to operate all types of machines except those that have work excessive in weight. They can be trained to inspect parts in process and to give final inspection to finished parts. They can be trained to assemble either simple or intricate mechanisms. They are successful in electric arc welding and metal burning.

Training of Connecticut women for war production began early in 1941, under the supervision of the bureau of vocational education, Connecticut State Department of Education. A total of 6000 women has received training in the public trade schools of the state in war production technics.

Popular courses are general machine shop, screw machine operation, light manufacturing for women, machine inspection, arc welding, tracing, parachute making and gun belt making. The training time ranges from fifty to two hundred and fifty hours.

An illustrated bulletin describing the Connecticut program for training women is available on request from the state department of education at Hartford.—ALONZO G. GRACE.

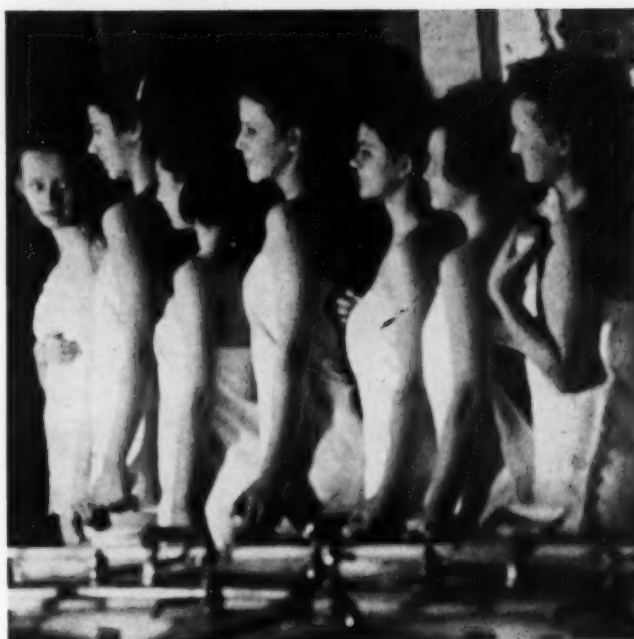
HEALTH

Examinations

*help to promote
physical fitness*

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TODAY the first obligation of the school is to promote physical fitness. Everything that can be done to perfect endurance, skill and agility will better the chances of the youth to protect himself, overcome the enemy and return.

The girl is in a somewhat similar position for she will replace her brother on the home front in industry and in community life. An analysis of more than 2000 jobs shows that there are only some 34 positions unsuited to women.

The three outstanding health habits essential to all programs are adequate nutrition, achieved through well-balanced diet; sleep, rest, relaxation and mental hygiene; exercise and recreation. Throughout life in the normal individual, each must be represented in an adequate program of living. No two out of the three will prove efficient.

What Program Should Include

The projected school program should include: (1) a thorough medical examination, (2) an early remedial program to care for all correctible defects, (3) a diagnosis of noncorrectible defects and suitable plans for a possible program of adjustment, (4) the placing of diagnostic problems under the observation of the doctor and his co-workers and the establishment of a program for guidance and development of health habits.

There has been a great deal of confusion concerning the necessity for correcting defects immediately

on diagnosis and for making adjustments to noncorrectible defects. One possible explanation is that in the case of correctible defects the pupil shows no apparent limitations in his adjustment when the first diagnosis is made. A child with large and severely infected tonsils or mild structural curvature may participate in sports and carry academic and social responsibilities in first-class style.

Degenerative disease is poorly understood by many teachers, health educators, physical educators, nurses, nutritionists and others. Degenerative disease is, in reality, a process of aging that occurs in the presence of certain correctible defects, such as low grade infections frequently found in tonsils and teeth. These early aging processes are concerned especially with the deterioration of the blood vessels, the heart and the kidneys.

New evidence is available on this point. In the first place, the draft examination figures presented by Colonel Rowntree,¹ concerned with the first 2,000,000 draftees, showed not only that 50 per cent were rejected or classified below 1A, but also that the effects of persistent defects were already taking their toll. Specifically, in the examinees 21 years of age, 30 per cent were rejected. Of the examinees 36 years of age, 70 per cent

¹Rowntree, Leonard G.: The College Health Program and National Defense: Optimum Health for All Students. Proceedings of the 22nd Annual Meeting of the American Student Health Assn., Bul. No. 25, 1941.

were rejected. Other evidence is to be found in the recent report of the examinations of some 149,000 youths by the National Youth Administration.² Examination data showed that 28 per cent of those in the age group 16 to 20 were classified below the grade of 1A, whereas in the next age group, 21 to 24 years of age, 41 per cent were classified below the 1A group. The importance of persistent defects promoting degenerative disease cannot be ignored in any health or physical fitness program.

With Family Doctor in Charge

In the organization and conduct of school health examinations the family doctor and associated personnel, *i.e.* dentists and other specialists, might assume complete responsibility. The family doctor might use a cumulative record card provided by the school, for example, the kind of card that is described in the 1942 Yearbook of the American Association of School Administrators.³

This card should carry the usual data—history, examination findings, diagnoses and recommendations. The meaning of the history, examination findings and diagnoses is clear. Recommendations should include reports for the correction of

²Federal Security Agency, National Youth Administration and U. S. Public Health Service. The Health Status of N.Y.A. Youth, Government Printing Office, Washington, D. C.

³Health in the Schools, Twentieth Yearbook of the American Association of School Administrators, Washington, D. C., 1942.

defects and for the improvement of health habits. In addition, some suggested changes in the child's school program should be included, *i.e.* rest periods, extra food, types of physical activity.

The medical card should be filed in the principal's office and be available to the school staff. It should be interpreted for the benefit of the school personnel but the data should be regarded as confidential. The school personnel should add observations or progress reports to this file, which should be kept up to date. It should be transferred with school data when the pupil moves.

Many school systems such as Detroit have been successful in using a combination plan, one in which the family doctor makes a large percentage of the examinations and the remaining ones are carried out by the schools in cooperation with public health personnel. In any case, the school system has to formulate plans for the conduct, follow-up and guidance of health examinations. In the majority of cases, the responsibility falls upon the physical educator for the organization of the examination. This is notably true in the case of the precompetitive health examination of the athlete. The physical educator, with the assistance of the school administrator and in conjunction with the community organizations, must make arrangements with the professional personnel—the county medical society, dentists, nurses, clinicians, public health department, tuberculosis association and other community organizations.

Who Finances Them?

A comment on budgeting the school health examination is in place here. Frequently in the past the voluntary services of the doctor and his colleagues have been employed. In some cases, civic organizations have underwritten the expense for the examination of athletes and other special cases. In some cases, the public health departments provide personnel and funds. In other systems, the school budget allocates funds for health services. It is not uncommon for the public health department and board of education to carry on jointly.

We will assume that the type of examination has been determined. The cumulative record card has been prepared. The school examining

rooms and equipment are ready. The amount of time of the professional that is available is known. The school administrator and his health coordinator must now decide how best to use these services. Consensus puts the prospective examinees in the following order: the pre-draft boys, the sick and markedly handicapped, the athletes, all pupils registered in physical education, all other pupils.

How Often Are They Needed?

The American Medical Association makes the following recommendation:⁴ Desirable intervals for periodic health examinations of normal individuals are suggested as follows, subject to modification where special reasons exist for more frequent examinations:

Prenatal: monthly to bi-weekly.

First 6 months: bi-weekly. Second 6 months: monthly.

One to 2 years: quarterly.

Two to 5 years: semiannually.

Five to 15 years: every two to three years.

Fifteen to 35 years: every two years.

Thirty-five to 60 years: annually.

Above 60 years: semiannually.

At this time, however, all devices to curtail the work of the doctor and his associates must be employed. What equally good plan can be devised to accomplish the desired result? The desired result is that each child in need of medical, dental, psychiatric or any other kind of professional health care receive it immediately.

It is essential that the number of cases referred to the specialist be limited. The most effective method, and the one to be recommended, is by no means new. But it has been greatly perfected. I speak of teacher health inspections, or teacher health screening tests, or teacher observation of health conditions. Here we have an approach to the correction of defects that, expertly used, not only is capable of promoting physical fitness in the pupil, but is a superb teaching device.

In Michigan both the department of public instruction and the department of health, in cooperation with the joint committee on health education, have been active in this field for years. The cooperation of these

groups has resulted in a series of authoritative monographs and materials such as the manual, "Teacher Observation of Health Conditions of School Children."⁵ This series of monographs, in conjunction with the other state materials available, will teach and guide the educator in such specific projects as that of health examinations.

In this plan, the teacher, physical educator, health educator, nurse and dental hygienist are taught the techniques for administering accurately certain tests, weighing, measuring, vision and hearing. The Astoria Study⁶ has demonstrated the accuracy of trained teacher observations.

To clarify this alternate plan still further, the doctor usually thinks of the health examination as being made up of four parts: history, examination proper, diagnoses and recommendations. (The Army has suggested that all examinations conform to those of the Army and that the Army classifications that pertain be employed.)

When Teachers Take Over

When the school teaching staff takes over, these four parts of the health examination can be disposed of as follows:

It may still be possible to get a good history from the parents. Some history may be elicited from the older child. A great deal of important history may be obtained from teacher observations and school records.

In making screen tests and observations, emphasis could well be placed upon observations of poor posture and curvatures of the spine, likely to make their appearance around 10 or 12 years of age.

Nonprofessional people will be well advised in most cases to avoid making a diagnosis. The welfare of the pupil should be kept in mind and plans made by which he will receive the best of care. The best technique is to note the variation from the norm, question its significance and see that it is disposed of authoritatively. It is not difficult to learn to discriminate between obvious difficulties and questionable difficulties.

⁴Elliott, Eugene B., and Moyer, H. A.: *Teacher Observation of Health Conditions of School Children*, Bul. No. 325, Department of Public Instruction, Lansing, Mich.

⁵Nyswander, Dorothy: *Solving School Health Problems*, the Commonwealth Fund, New York, 1942.

⁶American Medical Association, *Periodic Health Examination—a Manual for Physicians*. Chicago: American Medical Association, 1940.

Liability for ACCIDENTS

A Review of School Cases in 1942

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AT LEAST 15 cases went to the higher courts in 1942 on liability for school accidents. Four states gave consideration to the basic and underlying policy as to whether and under what circumstances a school district can be held liable at all for any negligently caused injuries to pupils or others.

Rule of Immunity

Under the generally accepted rule in the United States, a school district, as an agency of the state, cannot be held liable in negligence without express statutory consent.¹ In effect and overruling a recent opinion of the attorney general of Michigan that a general statute applicable to "drivers of all vehicles owned or operated by this state or any county, city, town, district or other political subdivision of this state" was a statutory consent to suit for negligence removing the cloak of governmental immunity,² the Michigan supreme court reverted to the dominant rule of immunity. Said the court of a 1941 case on which the attorney general relied: "[We] failed to sufficiently observe and preserve the attribute of sovereign immunity." The court specifically ruled that the statute did not waive governmental immunity for negligently caused injury.³

This decision followed another in the same state. A medical student at the publicly operated Wayne University was killed in falling down an elevator shaft; the worn safety catch permitted the opening of the door when the automatic elevator was not on the floor. Avoidance of the rule

of governmental immunity was sought on the basis of the university's charging of fees. But the court ruled otherwise, however, saying immunity is not lost by collection of fees to assist defrayal of the costs of public sponsorship.⁴

Alabama, on the other hand, has made a liberal construction of a general statute more in keeping with the overruled Michigan case than with the recent one. The statute gave a board of adjustment authority over claims for damage by the state "or any of its agencies, commissions, boards, institutions or departments," so as to provide a method of payment for injury in cases of a moral but not a legal claim. In a suit involving the death of an employee of a county board of education, the question arose as to whether this general statute was applicable to the educational system; the court ruled that it was, thereby to that degree abolishing the rule of governmental immunity.⁵

In two other states, important decisions have been rendered interpreting statutes specifically applying to cases of negligently caused injuries in schools. In California the court ruled that, as the right to sue in such cases is a statutory right, it is necessary to fulfill the mandatory requirements of the statute as to filing of claims; that the injured person is a minor is no excuse for nonfiling.⁶

In New York several statutes require school boards "to save harmless teachers" held liable for negligently caused injuries while the teacher was acting in the discharge of duties and within the scope of employment. The question has arisen several times

as to whether these statutes merely create derivative rights through the teacher who must, therefore, be sued and who alone can recover from the school board, or whether the statutes create a new right in injured persons entitling them to sue the school board directly.

The most recent case on this problem involved a pupil injured in an auto shop; the motor of the automobile he was moving on a dolly became dislodged. The court held that the statute was intended to do more than merely indemnify the teacher and that it indicated a state legislative policy against immunity for the negligence of governmental employees. The statute, ruled the court, established for school districts the otherwise ordinary rule of *respond-eat superior*, under which an employer is ordinarily liable for the negligence of his employee in the conduct and pursuit of employment.⁷

Equipment

In another New York case a pupil was injured while operating a lathe in a machine shop. He was wearing a loose-fitting sweater that got caught in the lead screw of the lathe while he was trying to lean over the machine to shut off the power. In attempting to extricate himself from the machine, he injured his thumb. The question was whether or not a statute requiring the board of education to supply equipment included the requirement of supplying tight-fitting aprons suitable for working around a lathe.

The court, with one judge dissenting, ruled against the board of education⁸ and said that the requirement of equipment was broader than merely books and pencils and included protective equipment sim-

¹For a basic discussion see Rosenfield, *Liability for School Accidents*, 1942.

²Opinion of Attorney General of Michigan, (July 29) 1941, No. 20563. For a general treatment of the Michigan cases and authorities, see Rosenfield, *Liability for School Accidents*, Michigan H. S. Athletic Ass'n. Bulletin, Supplement 18:5 (Jan.) 1942.

³Mead v. State of Michigan and Mich. Public Serv. Comm., 303 Mich. 168, 5 N.W. (2) 740 (1942).

⁴Daskiewicz v. Board of Education of Detroit, 301 Mich. 212, 3 N.W. (2) 71 (1942).

⁵Hawkins v. State Board of Adjustment, 242 Ala. 547, 7 So. (2) 775 (1942).

⁶Artukovich v. Astendorf, 131 Pac. (2) 831 (Calif., Dec. 3, 1942).

⁷Reeder v. Board of Education of New York City, 38 N.Y. Supp. (2) 55 (App. Div., Nov. 30, 1942).

⁸Edkins v. Board of Education, New York City, 287 N.Y. 505, 41 N.E. (2) 75 (1942).

ilar to that furnished men in similar industrial machine shops.

In an Illinois case, a 6½ year old pupil of a parochial school was injured when another pupil in the school lunchroom threw a scrubbing brush at her eye. The plaintiff charged that children habitually "roughhoused" and threw things in the lunchroom and that the school was negligent in leaving such things about and in failing to provide supervision. In ruling against the pupil, the court specifically refused to place upon the school "the duty of removing objects regularly used and necessary in maintaining the school premises. . . . The brush in question was inherently a harmless object."

The court found no negligence in the school's leaving the brush there. Nor was it negligent that no supervision was provided. "If school authorities were obliged to stand guard over children in the school premises at all times to protect them against the possible acts of mischievous pupils, it would be fairly impossible to conduct schools without peril to the authorities who maintain and operate them."⁹

Buses

In Alabama, an 8 year old boy was hit by a school bus entering the school grounds. It was a practice indulged in by the pupil at the time of the injury to run out to the bus and attempt to swing on to it; the driver had cautioned the boys against the practice. No rules had been established as to whose duty it was to keep the boys in line for the bus. At the time of the injury the bus was moving at 10 miles an hour and the driver did not see the plaintiff.

In sustaining the judgment and verdict for defendant, the court said that plaintiff should have known of the danger and stated that, while it was not a case of contributory negligence, it was for the jury to decide whether the driver had exercised reasonable caution to avoid injury in view of his knowledge of the custom of swinging on. "It cannot be said as a matter of law that the bus driver was under duty to assume control over the children awaiting transportation on the school grounds."¹⁰

⁹Kos v. Catholic Bishop of Chicago, 45 N.E. (2) 1006 (Ill. App., Dec. 30, 1942).

¹⁰Weems v. Robbins, 9 So. (2) 882 (Ala., Oct. 8, 1942).

A 9 year old pupil fell out of a Georgia school bus. He claimed that the door latch was defective and would fly open and that he sat on a small box near the door. The defendant denied the defective latch and said that the plaintiff got up at the roughest part of a country road and fell out as the bus went over a bump. The lower court held for the plaintiff but the appellate court reversed, saying that negligence was a matter for the jury and that there was no statutory prima facie inference of negligence merely from the occurrence of the injury. As a contract carrier, however, the defendant owed the pupils the "duty of exercising extraordinary care and diligence."¹¹

In a Louisiana case, a 12 year old pupil was hurt when he put his foot through the floor of a contract bus and touched the tire. In absolving the defendant, the court found the pupil guilty of contributory negligence. The defendant had no previous knowledge of the hole and plaintiff had been warned by fellow pupils not to do what he did, but he persisted in doing it deliberately.¹²

Working Pupils

Two New York cases involved pupils working in school. In one, a 12½ year old girl, working for her lunches in the school lunchroom by washing and putting away dishes, fell off a stool while at work. Over vigorous dissent of two judges the court held that the labor law was inapplicable to the case, that there was no defective equipment and that no negligence had been shown.¹³ In another case an N.Y.A. pupil was injured in connection with some maintenance work. Ruling against the pupil, the court stated that he could recover only under the Workmen's Compensation Act.¹⁴

Off Grounds, After Hours

Attending a P.T.A. evening lecture at school, the plaintiff adult slipped on the waxed concrete floor. The evidence disclosed that it was more dangerous to wax concrete

¹¹McVeigh v. Harrison, 22 S.E. (2) 752 (Ga. App., Nov. 1942).

¹²Gilcrease v. Speight, 6 So. (2) 95 (La. App., 1942).

¹³Warney v. Board of Education, Irondequoit, 264 App. Div. 813, 34 N.Y. Supp. (2) 787 (1942) (re-argument denied).

¹⁴Sweet v. Board of Education, Lenox, 264 App. Div. 439, 36 N.Y. Supp. (2) 635 (1942).

floors than others because, being non-porous, concrete kept the wax on the top as a slippery layer. In holding for the injured party, the court ruled that if wax is to be used "it must be in such a manner as to afford reasonably safe conditions for the proprietor's invitees," and if it cannot be done safely it should not be done at all.¹⁵

In another case a minor, not a pupil, was on the school grounds during out-of-school hours watching a baseball game; she strayed off and began to play in an abandoned broad-jump pit, cutting her hands on broken glass in the sand. In overruling a decision dismissing the complaint, the court ruled that it was a question of fact whether an invitation to a baseball game assumed the use of adjacent facilities. Even if the sand had been installed for a different purpose, it was a question of fact whether a reasonably prudent child would have done as this one did.

The ruling was: "Defendant may be liable for negligence for failure to reasonably anticipate the use of such equipment by children."¹⁶

In another California case, in going from the school to its athletic field for class, a 17 year old high school pupil ran across the middle of the street, not at the marked crosswalk.

The school authorities were aware that the boys customarily crossed this busy street at this point. There was no warning sign, no rule on the subject and no teacher or other person posted there. Furthermore, cars customarily parked diagonally at this point, obstructing the view of the crossing.

The court reversed a ruling denying the pupil right to sue, because, it said, with this knowledge of conditions, the school authorities were bound to take ordinary care for the protection of the pupils.

The school's duty, it ruled, does not end at the street because the pupils have to use the street to get from class to class. "In a sense the public street under these circumstances became an extension of the school grounds."¹⁷

¹⁵Lorenz v. Santa Monica City H.S. Dist., 51 Cal. App. (2) 393, 124 Pac. (2) 846 (1942).

¹⁶Brown v. City of Oakland, 51 Cal. App. (2) 150, 124 Pac. (2) 369 (1942).

¹⁷Satoriano v. Sleight, 129 Pac. (2) 35 (Cal. App., 1942).

Choral Speaking

Isn't a FAD

CHORAL speaking is the vocal interpretation of literature by a group of voices speaking as one. Although in existence in its modern form but a comparatively short time, it is not in any degree an educational fad.

Everyone who follows progressive principles, and especially teachers of English and literature, will wish to become familiar with the technics of this new subject.

The first and best way to become acquainted with choric speech is to have the opportunity to see and hear several verse-speaking choirs. Such a performance will introduce the joys, the beauties, the emotions and the splendid voices that are revealed by choral speaking. It is a proved fact that the breath control, articulation, pronunciation, vocabulary and literary interpretation of the members of a choral speaking group are superior to those of nonmembers.

Among the outstanding leaders of this movement are Marjorie Gullan, founder (in 1925) of the London Verse-Speaking Choir; Mona Swan, author of "Choric Speech"; Elizabeth Keppie of Pasadena Junior College; John Masefield, poet laureate of England, and Carrie Rasmussen of Madison, Wis.

Nine Educational Values

The educational, social and artistic values of choric speech justify its appearance on the courses of studies of all schools. Some of the educational values are:

1. Increased breath control. Breathing freely with physical poise and balance is one of the major assets.
2. Attainment of good oral and nasal resonance; practice in flexibility, range and volume of tone.
3. Accuracy of speech.
4. Improvement of enunciation. Clear, crisp and distinct sounds are always evident.
5. Increased vocabulary.
6. Development of a sense of rhythm. The cadences and the music of poetry are emphasized.

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7. Ability to divide a poem into major units of thought or units of understanding.

8. Improvement of oral and silent reading.

9. Wider knowledge of poets and authors. Members of a verse-speaking choir are not troubled with detailed biographies of a few literary men but, rather, are exposed to the names of many poets and authors.

The social values of choral speech include the following:

1. Development of cooperation and team spirit. Choral speaking is a cooperative undertaking, for the speaking of poetry is shared. All members of a choir work in unison for the best group performance.

2. Development of freedom and spontaneity in individual expression. Each member expresses freely his personal meaning.

3. Loss of self-consciousness. The bashful child becomes self-confident when in partnership with others.

4. Growth of character and personality.

5. Joy in sharing with others.

Artistic values include these: (1) increased poise, (2) better posture, (3) more bodily freedom of expression, (4) development and stimulation of expression, (5) appreciation of many kinds of poetry, (6) quickness of oral perception and (7) inspiration with an attitude of respect toward our beautiful language.

Not every teacher can successfully teach choral speaking. An organizer and conductor of a choir must not only be a lover of poetry and have a broad background of the various types and periods but must also possess a good speaking voice and the ability to read poetry especially well. Experience in dramatics and voice training are assets in teaching.

Every choral class "should be for its members a liberal education, hav-

ing a profound influence on their daily lives." Poems that provide pupils with thoughts that they can relate to their own everyday experiences should always be included in their selections. The remaining numbers will depend on the age, grade and composition of the group. Sea chanties and stirring war ballads always catch boys' fancies, while lullabies and lyrics appeal to girls. Poems that denote a general rather than an individual point of view and whose meanings are straightforward are usually used. "I" poems should be used sparingly. Poems with melody and rhythm and with thoughts and feelings moving to a climax are always suitable.

Of first importance in verse-speaking is rhythm. Every group should be helped at the outset to develop a sense of rhythm. Care must be taken not to confuse meter with rhythm.

Poetry must be voiced and alive. Members must enjoy what they are doing in order that their speaking have color, life and movement. This is more valuable than technic for technic can always be added.

Each Lesson Has Five Steps

Usually every choral speaking lesson has five steps:

1. Breathing exercises for poise, posture and voice improvement.
2. Voice drills to make the speech organs more responsive.
3. Practice in tone placement. In speaking such sentences as "Picking pretty plump peaches was Peter's pleasant pastime," the tone should be well forward in the mouth.
4. A study of the poem to get the thought, mood, rhythm and tempo. The poem should be introduced by establishing an interesting setting and the right atmosphere. All words and phrases that interfere with correct rhythm should be prehandled.
5. Reading of the poems. Correct practice will eventually lead to perfection. The teacher should avoid overpracticing a poem, however. When pupils become too familiar with a selection, spontaneity, which is one of the charms of choral speaking, tends to disappear. Perfect timing, tuning and toning are not necessary except in choir demonstration.

What better artistic activity, educational experience and profitable delight is there than choral speaking? It isn't a fad. It is here to stay.

Needed: An Objective Method of Determining TEACHING LOAD

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NEVER have educators been more keenly aware of the importance of teaching load. Formerly discussion was to a large degree restricted to administrators and supervisors. Now teachers' organizations are beginning to examine the subject critically and to raise questions that must be answered objectively.

There is need, therefore, that some agreement as to the elements comprising load be established in order that teachers and administrators may have a common basis upon which to discuss their problems and, further, that a mutually acceptable objective measuring device be established.

When examined in chronological sequence over the last twenty years, definitions of the term "teaching load" show marked changes in meaning and scope, progressing from the simple to the decidedly complex statements of recent years.

In 1917-18 the U. S. Office of Education defined teaching load as "the number of pupils divided by the number of teachers." A typical statement of 1925 says: "As the term is generally used it signifies the number of pupils times the number of weekly recitations or, briefly, the pupil-periods per week."¹

In 1932 Thomas broadened teaching load so that it encompassed "the amount of time a teacher spends each week in teaching and all activities connected with teaching."²

A recent definition (1939) extends teaching load to include consideration of "the teacher as guide and interpreter of the educational experiences of pupils and a corresponding emphasis upon the quality of pupil-teacher relationships as a critical factor in personality."³ This growth from an elementary concep-

tion in which teaching load concerns itself only with mere pupil-teacher ratio to a broad inclusive one that recognized its multiple components has not resulted from chance. Rather it is a concomitant of the reshaping of our philosophy of secondary education and the improvement in the technics of evaluation.

A summary of teaching load factors mentioned in professional lit-

erature is given in the larger table. Certain factors that have been previously examined and summarized in detail are not exhausted. For instance, class size has been handled adequately by Irwin.⁴ The tabulation shows, however, the breadth and complexity of the problem and indicates, on one hand, those elements that have received the most attention and, on the other hand, those that have to date been largely

³The Teacher Looks at Teacher Load, N.E.A. Research Bulletin 17, No. 5, (November) 1939.

FREQUENCY OF APPEARANCE OF ITEMS IN READINGS ON TEACHING LOAD

CATEGORY AND FACTORS	SOURCE				TOTAL
	BOOKS	PAM.	THESES	MAG.	
PERSONNEL					
Number of pupils taught per week—pupil					
clock hours	4	5	4	4	17
Personal equation between teacher and pupil	0	2	1	3	6
Personality of classes (general)	3	3	2	2	10
Class size	5	5	2	4	16
Classification	3	3	1	1	8
Disciplinary standards	4	1	1	1	7
Attitude toward work	2	3	0	2	7
Age of pupils' maturity	2	3	0	1	6
Morals—citizenship standards	0	4	1	1	6
Mentality	2	3	1	1	8
Attendance habits	1	1	0	0	2
Home environment of pupils	0	1	0	0	1
CURRICULAR AND ADMINISTRATIVE					
Extracurricular duties	16	4	4	8	32
Variations in load because of subject matter	6	6	6	6	24
Amount of preparation (preclass)	4	0	3	2	9
Amount of contingent work (postclass)	4	0	3	4	11
Number of different preparations	4	4	5	2	15
Number of classes taught daily	6	3	3	3	15
Amount of nonclass clerical work, supervision, administration, etc.	5	0	4	2	11
Physical environment	4	4	0	0	8
Length of school day	1	1	2	2	6
Relative subject coeffs.	0	1	3	3	7
Number of different fields in which teacher works	0	1	3	2	6
Type of school organization	2	1	0	1	4
Length of period	0	2	0	2	4
Relative weight of teaching and laboratory	1	0	2	1	4
Size of school and its type	0	0	0	1	1
Utilization of physical aids, mode of presentation	1	4	3	0	8
PERSONAL MORALE					
Relation between teaching load and teachers' capacity prop. awards	7	6	2	1	16
Emotional features of school conditions	1	2	0	1	4
Teacher's health	3	1	1	0	5
Teacher's sex	1	0	1	2	4
Length of service and permanence	3	3	3	3	12
Professional growth	4	1	2	3	10
Community and nonschool activities	5	0	1	4	10
Preparation for field of training	0	0	1	1	2

¹Almack, John C., and Lang, Albert R.: Problems of the Teaching Profession. Boston: Houghton Mifflin Co., 1925, p. 212.

²Thomas, Harold P.: An Analysis of the Time Factor in the Distribution of School Duties. Unpublished Doctor's Dissertation, Harvard, 1934.

ITEM ANALYSIS OF TEACHING LOAD FORMULAS

	ABRAHAM	ALMACK- BURSCH	BROWN- FRITZMEIR	DOUGLASS	HARRINGTON	HUTSON	WOODY- BERGMAN	SAND
Class periods	x	x	x	x	x	x	x	x
Duplicate assignments				x				x
Number of preparations			x	x				
Number of pupils	x	x	x	x		x		x
Cooperations		x	x	x				x
Length of period	x		x	x				
Subject weight		x	x	x			x	
Standard teaching load					x		x	

ignored, possibly because of newness or an element of nonobjectivity.

The extensiveness of this table and the breadth of more recent conceptions of teaching load (as shown by definition) emphasize the difficulty of narrowing down components to a few simple ones. In view of the widespread interest of the entire educational personnel in the problem, it behooves the professional educator, at all costs, to analyze and combine various factors of teaching load so that the composite may be acceptable to both teacher and administrator.

That the weights of the individual elements comprising the total index of teaching load are not definite or stationary is obvious. As educational philosophy and resultant practice undergo adjustment, the components of teaching load will vary in their contributions to the total load index. Any measuring device should, therefore, be flexible. There is real danger that the problem will seem too difficult for any practical solution; hence the tendency may be either to ignore it or to employ factors that are too elementary. However, enough of the items are practically constant and can be incorporated into a workable and acceptable formula.

An article by Newson and Pollack examines 10 methods of computing teaching load.⁵ They conclude that the Philadelphia public schools method, "total assigned teaching periods plus total assigned periods for cooperations plus roster allowance for unassigned activities," is

⁴Irwin, Manley: Educators Have Not Solved the Class Size Puzzle, *The Nation's Schools* 10:23 (Dec.) 1932.

⁵Newson, William, and Pollack, Richard S.: Computing Teacher Load, Analysis and Comparison of Various Methods. *School Review* 47, No. 8 (October) 1939.

probably the best system to date.

When data concerned with teacher opinion are excluded, the most desirable method seems to be that of Ward: "Find total time in all assigned duties per day. Add twenty minutes per day for each separate lesson preparation for the week. Add three minutes per pupil for paper work. Add reasonable time for other activities and find total."

With no definition or agreement of "roster allowance" and "reasonable time" the formulas become subjective and the results lack needed objectivity. By the same analysis the teaching load formula of Douglass was ranked sixth out of 10 with teacher opinion included and last

with teachers excluded—indicating a need for objectivity.

The smaller table, from my unpublished dissertation, gives eight objective items on which the teacher and administrator can agree. It will be noted that the Douglass formula covers them more adequately than does any other.

An acceptable formula for teaching load should weight the principal items objectively so that they contribute proportionately to the final index. The Douglass formula does this satisfactorily by mathematical methods, the results of which may be compared directly between teachers or departments or schools or with accepted norms. Further it may be modified objectively by including special subject coefficients or other weights that administrators and teachers may accept as more equitable in their own schools.

An objective method of determining teaching load is much needed for correcting the serious discrepancies actually existing between loads of individual teachers within a particular school or in the various buildings of a school system and for establishing a mutually acceptable standard that will demonstrate objectively the justice of assignments.

Measurements by X-RAY

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THE x-ray machine may soon be education's most useful measuring instrument. Use of x-ray equipment in education has been made possible by a group of medical men who worked under the guidance of the late Dr. T. W. Todd. Todd and his co-workers began about 1925 to do research on the problem of estimating a child's stage of bodily maturation. Todd's 1937 norms are the most nearly perfect standards for estimating a child's stage of bodily maturation yet developed. They make it possible for a teacher to determine a pupil's stage of bodily maturation.

Leading or coaxing an immature child will not make him walk. He

will walk when his body has reached that stage of maturation that makes it physically possible for him to walk and, in addition, to understand why his parents are leading and coaxing him to walk. Likewise, repeating words and coaxing a child to speak until he reaches the stage that makes it possible for him to understand the reason for speaking. Consequently, learning will be greatly facilitated when elementary school teachers realize the part bodily maturation plays in helping children to understand the reasons for learning.

Todd's Atlas contains radiographs, or x-ray pictures, of the left hand and wrist. The reader will observe

the following: (a) on the right-hand page is a radiograph of a child's left hand and wrist, and (b) on the left-hand page is a description of the radiograph. This plan makes it easy for a teacher to learn how to read or to assess radiographs and obtain a record of a pupil's stage of bodily maturation.

Get a copy of Todd's "Atlas of Skeletal Maturation" and a college textbook on the physiology and anatomy of the human body. Study both books intensely for several weeks. It will take only thirty minutes to read the discussion in Todd's Atlas. Contact a physician who has an x-ray machine and ask him for help in making and assessing four or five radiographs of children in your classroom as an experiment.

In September 1941 Dearborn and Rothney published the findings of the Harvard Growth Study, which had used the x-ray method of determining the stage of bodily maturation of subjects. These authors made the following statement: "We have assessed our x-ray films by Todd's revised 1934 standards for the hands of white boys and girls."

Dearborn and Rothney seem to express or imply their faith in the ultimate value of Todd's norms to education when they say: "Until the atlas of skeletal development compiled by the late Prof. T. W. Todd is either published or made available otherwise, the best single account of Todd's work will be found in the White House Conference Reports of 1933."

annual increments of \$100, with a maximum of \$2400. The secondary schedule included an initial salary of \$1600, a probationary teacher salary of \$1700, annual increments of \$200 from \$1700 to \$2500, then annual increments of \$100 to the maximum of \$2800.

In May 1942 the board of education, when allocating funds for 1942-43, adopted a single salary schedule in "principle" and placed the minimum salary for both elementary and secondary teachers at \$1600. All elementary teachers who held master's degrees and who were at their maximum (\$2400) were shifted to the secondary schedule.

The operating budget for 1943-44, as approved by the board of education, places all teachers on a single salary schedule, with recognition of preparation in the maximum salary. In the new schedule all teachers are to be appointed at \$1600 (plus cost of living adjustment), the annual increments for all are to be \$200 and the maximum salary for a teacher not the holder of a master's degree is \$3100. A teacher who holds a master's degree will receive a maximum salary of \$3200. These maximums are to include the present (10 per cent) cost of living adjustment. The new salary schedule reduces the time required to reach the maximum from ten years to seven years for elementary teachers and from eight to seven years for secondary teachers.

A new salary schedule for elementary school principals provides increases as follows: schools with from 8 to 17 classrooms, former salaries \$3000 to \$3300, proposed salary \$3600; schools with from 18 to 27 classrooms, salaries increased from \$3700 to \$4000; schools with from 28 to 37 classrooms, salaries increased from \$4100 to \$4400; schools with from 38 to 47 classrooms, salaries increased from \$4100 to \$4600, and schools with 48 or more rooms, no change in the present salary of \$5000. Other miscellaneous salary increases are scheduled for principals of special schools, assistant principals, department heads and others.

The cost of living adjustment and the new salary schedule reflect the trend toward a single salary schedule based upon preparation, a higher minimum for elementary teachers, a higher maximum for all teachers and a shorter period for reaching the maximum.

Salary Schedule

A FUNCTIONAL approach to teacher personnel administration recognizes that the interrelated problems of recruitment, selection, preparation, certification, placement, orientation, salary scheduling, sick leave, retirement and other activities are specifically related to the instructional program. These problems must be so solved that the maximum contribution is made by the teacher to the children in the classroom.

Because of the increased cost of living and the many lucrative opportunities for work in industry and government, teachers' salaries are a major current problem.

Among recent conclusions drawn and recommendations made with respect to teachers' salaries are the following: (a) temporary war-time allowances should be granted because of the higher cost of living; (b) more equitable salary schedules should be drafted and accepted; (c) substandard salaries should be raised to a defensible minimum; (d) salary schedules of a preparation-development-merit type should be provided; (e) salary schedules should include annual increments over a period of from eight to twelve or more years, and (f) single salary schedules must be adopted.

JOHN R. EMENS

DIRECTOR OF PERSONNEL
DETROIT PUBLIC SCHOOLS

Since much of the information reaching teachers and the public is discussion about recommendations, it is appropriate to give widespread publicity concerning actual accomplishment.

Teachers in Detroit are now benefiting (or will benefit) from a cost of living salary adjustment and a new single (preparation) salary schedule providing higher minimum and maximum salaries. A cost of living adjustment of 10 per cent, but not to exceed \$300, was made effective on Sept. 1, 1942, and it is expected that it will be integrated into the current salary schedule. There is some prospect that an additional 4.54 per cent will be made next year as a further cost of living adjustment.

The former salary schedule for teachers was a position schedule. It was adopted in 1921 and was followed until September 1942 with some slight modifications and with a two year period of postponement. The elementary schedule provided an initial salary of \$1400, a probationary teacher salary of \$1500, an-

The April Portfolio on

Schoolhouse Planning

Facts About

RADIANT HEATING

ROBERT W. ADKINS

ENGINEER, DES MOINES, IOWA

THE principle of radiant heating is not new. Its true nature is best explained by comparing it to light, traveling through space in straight lines until absorbed or reflected by some object.

On the other hand, convected heat behaves as a fluid with the flow being governed by differences in temperature or pressure. In a convection type of heating system the desired result is accomplished principally by raising the temperature of the air through the use of a comparatively small heating surface, such as a radiator or furnace maintained at a high temperature.

In a radiant heating system the same result is accomplished by means of a much larger heating surface, such as the walls, floors or ceilings of the building, being maintained at a relatively low temperature.

Several Methods of Panel Heating

The effects of radiant or panel heating can be obtained in a number of ways, the most practical of which are as follows: by means of high resistance electric wires embedded in plaster or concealed behind wall coverings, by means of warm air circulated through hollow spaces between wall studding or floor or ceiling joists and by means of steam or hot water circulated through pipe coils laid below floors or concealed behind plaster. As the use of steam and hot water pipe coils has seen far greater application than any of the other methods, the present discussion is limited to this type, although much of it would apply to other types as well.

Low pressure steam, because of the difficulty of obtaining proper distribution under conditions of partial loads, has not been as popular as hot water. In certain types of low cost installations it is common practice to supply all of the heat required through pipes placed in or immediately under a concrete floor. While

this has been quite satisfactory in small residences and in some types of commercial buildings, the heat storage capacity of the massive floor construction causes an appreciable sluggishness during warming up periods and a tendency to overshoot when weather conditions or occupancy change rapidly.

Most Satisfactory Method

The most satisfactory method is to supply only sufficient heat from the floor to meet the constant portion of the heat requirements and to meet the daily fluctuations in load with some other source of heat, such as air heating equipment installed in connection with a ventilating system or radiant panels in the ceiling. The floor can then be maintained at constant temperature during most of the heating season.

Ceiling coils, being covered only by a thin layer of plaster or other material, have little heat storage capacity and therefore respond rapidly to sudden demands of a thermostat. In some installations, even greater flexibility has been obtained by concealing the pipes with fluted sheet metal panels instead of plaster. These panels can be made to harmonize with the structural and decorative features of the rooms and they possess the added advantage of being removable when repairs or replacements become necessary.

Up to the present time radiant heating has been applied more frequently to homes than to public buildings. While by no means the solution to all heating problems, this type of heating can be used to great advantage, not as a substitute for other equipment but rather in conjunction with other methods, as far as possible the best features of each being retained.

Experience would indicate that panel heating is especially desirable, first, where rooms have unusually high ceilings, such as in gymnasiums, music rooms or halls communicating with an open stair well.

When heated to a high temperature by a radiator or direct fired furnace, air tends to rise rapidly to the ceiling, thus greatly overheating the upper part of the room before the occupancy level reaches the desired temperature and thereby wasting fuel.

Cold air leaking into the schoolroom through cracks around windows or room air that has become chilled by contact with a window or an exposed wall tends to descend, causing uncomfortable drafts in the area near the wall.

However, if all or a large part of the required heat were supplied from pipes buried in the floor or walls, the air would be heated only up to the desired temperature and stratification would be greatly reduced with a consequent increase in comfort and fuel economy.

Fresh Air That Smells Fresh

Second, panel heating is superior where rooms are provided with mechanical ventilation and require a high rate of air change, such as in toilet rooms, laboratories and in auditoriums. Since lower air temperatures are permissible in panel heated rooms, less heat will be required for

DISADVANTAGES

1. High cost in building not specifically designed for it.
2. "Stiffness." Charge not valid when system is correctly designed and accurately controlled.
3. Inaccessibility of piping when repairs are necessary.

tempering the outside air brought in for ventilation. Also, since no recirculated air is required to distribute heat, air handling equipment needs to meet only the ventilation requirements and fresh air really smells fresh with no trace of the stale cooked odor sometimes present when a large amount of air is heated to a high temperature and is then recirculated.

Third, where rooms have no basement below, panel heating is functional. Many school buildings constructed in recent years have been designed with all or part of the ground floor consisting of a concrete slab placed directly on the earth. While they may be desirable from a standpoint of cost of construction and maintenance, such floors are, unless well insulated, frequently found to be cold.

The concrete slab in contact with moist earth loses its heat during the night and, being massive, is slow to warm up in the morning, with the result that for several hours the occupants of the room suffer from cold feet. A little heat supplied directly to the floor slab is a sure and effective remedy for cold feet.

Fourth, radiant heating is advantageous where sanitation is an important factor, as in laboratories or home economics kitchens. The advantages of having no unsightly exposed pipes or radiators to clean around or hot air registers to streak walls or furnishings are self-evident.

It might be well, at this point, to consider some of the disadvantages of radiant heating and, when possible, to suggest a remedy.

Question of Cost

The question of cost is always raised when comparing various types of heating systems. While it is true that a panel heating system installed in a building specifically designed for some other type of system may be somewhat more expensive, it is also true that, in a building designed for radiant heating, such a system will cost practically the same as a steam or hot water convection system of comparable quality. This is apparent from the fact that all the more costly items, such as boilers, stokers, oil burners, pumps, valves, fittings and control apparatus, are identical for either type of system. Occasionally the complaint is made that panel heated rooms are "stuffy."

PANEL HEATING IS ESPECIALLY DESIRABLE—

1. Where rooms have unusually high ceilings.
Gymnasiums, music rooms, halls that communicate with stair wells.
2. Where rooms are provided with mechanical ventilation and require a high rate of air change.
Toilets, laboratories, auditoriums.
3. Where rooms have no basement below.
Ground floor consisting of concrete slab placed directly on the earth.
4. Where sanitation is an important factor.
Laboratories, home economics kitchens.

While this may sometimes be true, an investigation of these cases would reveal that the rooms were overheated or that ventilation was inadequate or not properly distributed. The remedy, of course, is correct design, accurate control and provision for needed ventilation.

Careful Design Required

Perhaps the most obvious disadvantage and possible source of trouble is the inaccessibility of the piping and the difficulty of making repairs in case a leak should occur. Whether or not this is a serious objection depends to a great extent on the care and judgment exercised in designing the system, selecting the materials and supervising the installation. Equally important is the matter of intelligent operation and maintenance over a period of years.

As with any system, all piping should be carefully inspected and thoroughly tested before being concealed. Coils should be laid without sags or traps to permit complete drainage in case it should become necessary to shut the heat off for a long period of time in the season of cold weather.

Serious weakening of the pipes by external corrosion is prevented by using corrosion resisting materials and by embedding pipes in clean gravel or concrete and never in cinders or other corrosive soils. While copper pipe may become plentiful enough in the future to make it available for heating systems, wrought iron is at present the most satisfactory material. It is preferred because it is economical, strong and

durable and because it can be bent and welded easily.

As in any hot water system, internal corrosion becomes a serious problem only if proper precautions are neglected. The piping system must be thoroughly vented, not only to ensure efficient circulation but also to prevent the accumulation of air or other corrosive gases. Vents, valve packings and pump seals should be kept tight so that leakage and the need for make-up water will be reduced to a minimum, the reason being that water that has been in the system for considerable time eventually becomes inert and corrosion and scale formation cease entirely; however, raw water brought in to make up for leakage contains dissolved gases and may contain scale forming elements or acids that attack the boiler and pipes.

Consider It Seriously

Although considerable school construction takes the form of additions to existing buildings equipped with serviceable steam heating boilers, it is practicable to serve a hot water radiant panel system from a low pressure boiler or central steam main by circulating boiler water or preferably by means of a converter or heat exchanger, a device that operates similarly to conventional domestic water heaters using steam.

Radiant heating should, therefore, be seriously considered in any post-war planning. A system of this type that is well designed and reasonably well cared for may be expected to give years of economical trouble-free service with low maintenance cost.

Color Change *with* LIGHTING

TODAY'S war industries are using from three to five times the production foot-candles used during the last war—at no greater overall cost, largely because of a noteworthy decrease in the cost of electric energy and to more efficient light sources, such as the fluorescent lamp. It is to be expected that schools will follow the lead of industry and will use fluorescent lamps to obtain higher levels of illumination.

In order to meet such future requirements, certain elements require long-range planning. For instance, wiring capacity, circuit control and relocation of outlets can be investigated for their adaptability to the use of these new light sources. Of considerable importance in this connection are the colors and reflection factors of walls and ceilings.

In the classroom the monotony of the constant repetition of buff side-wall finishes is becoming a thing of the past. School authorities are taking advantage of the influence that color has on the psychological reactions of pupils and teachers. While there are perhaps half a hundred theories on color vision, color sensations that produce psychological reactions are the result of a combination of only three factors. The reaction of the human being to color is

L. S. ICKIS

NELA PARK ENGINEERING DEPARTMENT
GENERAL ELECTRIC COMPANY

dependent, first, upon the ability of the individual to see colors. The second consideration is the color or pigmentation of the object from which color sensation is derived. Third is the color quality or spectral composition of the light helping to produce the color sensation.

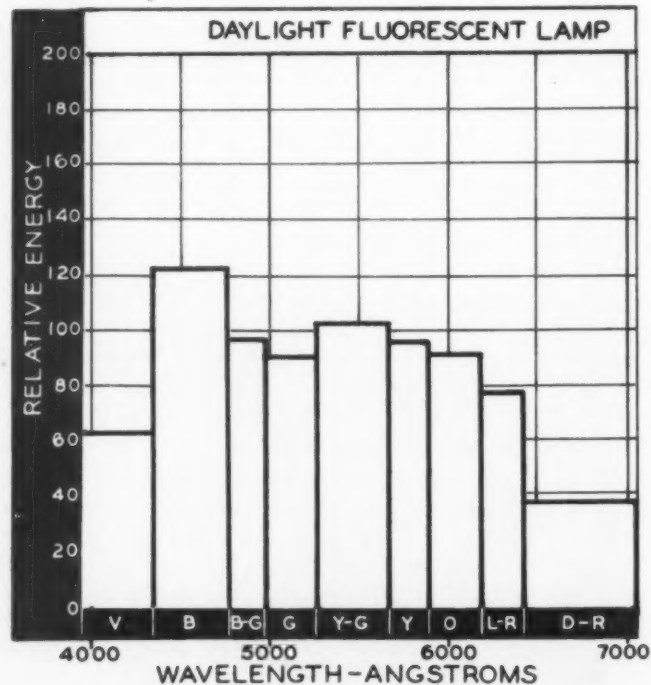
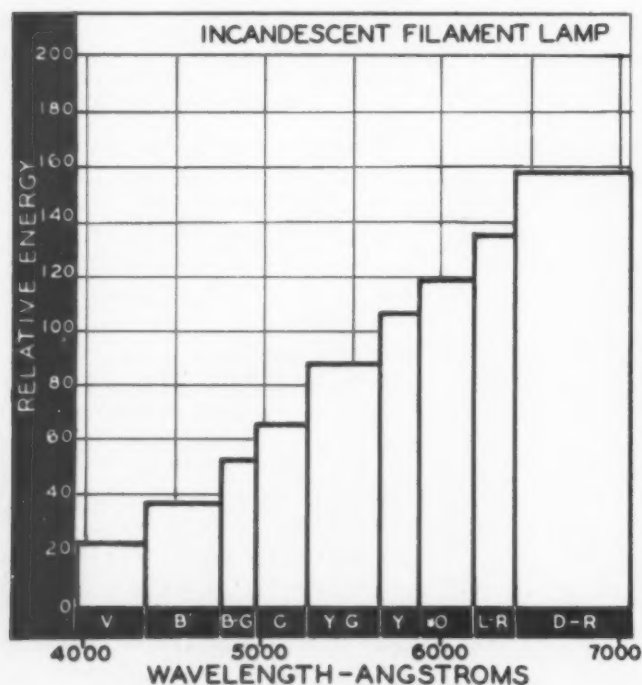
The importance of these conditions is evidenced by the fact that a totally color-blind individual, for instance, experiences no color sensation regardless of the pigmentation of the object or the color quality of the light source. A perfectly black object that has no pigmentation, such as black velvet, will fail to produce a color sensation irrespective of the color sense of an individual or the color quality of the light under which it is seen. Also, a light source that has only one color present (monochromatic) will not produce a color sensation unless the pigmentation of the reflecting object contains the same color.

Modern practice for classroom decorating schemes is largely influenced by natural lighting conditions. The colors are chosen with regard to the

room orientation or exposure and what is seen out of the windows. In those rooms with a warm exposure, such as south and west, the cooler colors—green, blue greens, and blues—are being used. The warmer colors—tans, buffs and the neutral grays—are being used in those rooms where natural lighting is from the north sky and from the easterly early-morning sun that is usually cooler than the afternoon sun.

The influence of artificial lighting has been that of superimposing light from a warm colored source on the natural lighting. Thus the warming effect of the artificial lighting has added to the warming effect of the natural lighting in those rooms with south and east exposures and has added to the neutralizing effects of the warm wall colors in those rooms with the cooler natural illumination.

The fluorescent lamp introduces additional problems not only regarding the influence on the wall color of the various light sources available in this new form but also of the amount of illumination that can be obtained with this efficient light source. With fluorescent lamps the amount of artificial lighting usually employed is more nearly comparable to the quantities of natural lighting found in the classroom. Therefore,



the color of the artificial source will influence the decorating scheme as strongly as the natural lighting.

Two colors of fluorescent lamps are finding acceptance for general illumination. One is the white lamp (3500° K) which is approximately the color of the blue-bulb "daylight" (filament) lamps, with some slight emphasis placed on the yellow portion of the radiation. The other is the daylight lamp (6500° K), a bluish or cool light designed to produce an effect similar to that produced by the combination of sun and sky at noon.

In addition, another fluorescent lamp, used in some general lighting installations, is known as the soft white lamp. This gives approximately the same color of light as that obtained from regular filament lamps with perhaps a little more pink and blue. The lamp is flattering to complexions and would be classified as a warm light source.

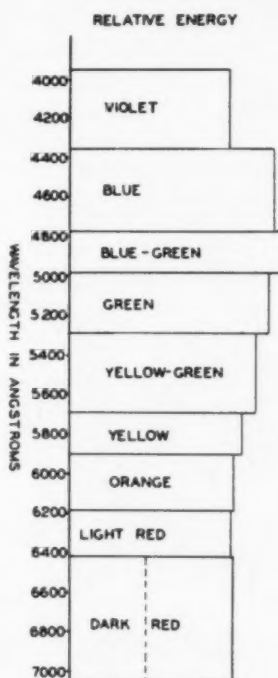
Generally speaking, the 3500° K white lamp might well be used with the cool colors but not with deep, warm tones. It can be used satisfactorily with light tints of buff and warm gray. The daylight lamp is such an excellent simulation of the light from an overcast sky or from the combination of sunlight and sky light that it can generally be stated that any color that appears pleasant under natural conditions of this type will also be pleasing under the daylight fluorescent lamp.

Appraisal of Wall Colors Viewed Under Various Light Sources and Illuminated to Normal Brightness

Wall Color	Ref. Factor	Fluorescent	Light Source		
			3500° White	Daylight	Soft White
Blue	51	Greenish blue	Pale blue	Bright blue*	Powder blue
Sky Blue	54	Greenish blue	Sky blue*	Dull blue	Grayed blue
Garland Blue	55	Greenish blue	Grayed blue	Blue green	Soft blue*
Cascade Blue	58	Blue green	Light green	Blue green	Robin's egg*
Light Blue	60	Soft blue*	Pale blue	Grayed blue	Grayed blue
Green	50	Yellow green	Deep green*	Blue green	Gray green**
Nela Green	53	Warm green	Blue green**	Gray green	Gray green
Warm Gray	50	Warm gray	Green gray**	Blue gray*	Warm gray
Gray	50	Dull gray*	Green gray**	Gray green**	Warm gray
Light Taupe	54	Buff	Buff	Peach*	Pink**
Light Tan	59	Dull tan	Brindle**	Yellow tan	Mustard**
Buff	65	Buff*	Deep cream	French gray	Flesh

*Preferred

**Unsatisfactory



— 3500° K DAYLIGHT

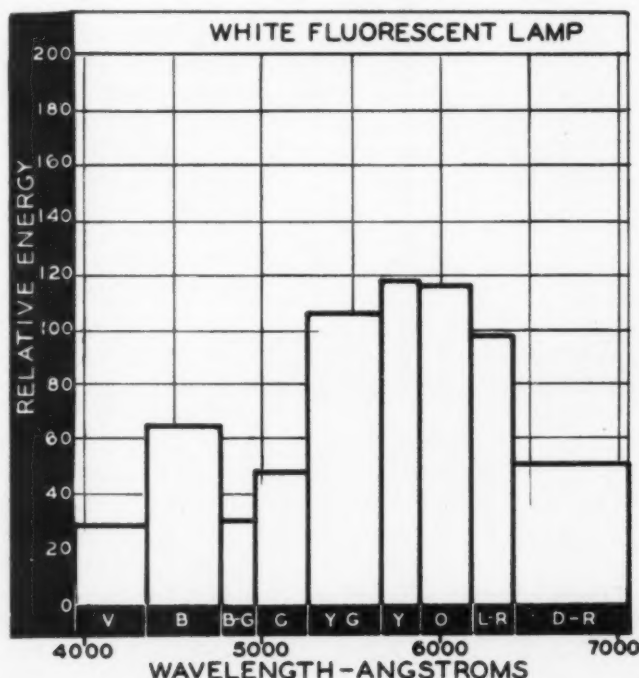
The soft white lamp that is pink in appearance because of emphasis on blue and red radiation is likely to have an undesirable effect on the light tans and upon yellow greens.

The accompanying table reports the appraisal of several different wall colors by a group of architects and illuminating engineers when the colors were viewed under the various light sources and illuminated to normal classroom brightness.

Colors listed in the table refer to specific formulas. It would be possible to produce, by different mixtures, colors which would match them under any one source but which would give quite different reactions when seen under the other sources. The reflection factors given in the table apply to light from generally used filament type sources and would differ slightly for other types.

It is evident that all of the blues examined are acceptable under all of these light sources, that the greens are pleasant except under the light from the soft white lamp, that grays have an undesirable appearance under the white lamp and that blue gray is not desirable for use with the daylight fluorescent lamp. The tans, taupes and buffs were not satisfactory under any of the illuminants although the buff was acceptable under the filament lamp and under the 3500° white lamp.

While the final choice of wall finish should be made with the lighting it is expected to supplement, the table can be of value in the initial and planning stage of any lighting and redecorating program. A well-planned, colorful decorating scheme costs no more and results in added beauty and an improved atmosphere.



To Meet WAR-TIME NEEDS

JEROME C. De HETRE

ARCHITECT, LONG BEACH, CALIF.

THE PROBLEM

THE problem in Compton, Calif., was to provide additional elementary school facilities for the children of defense workers coming into the area. In studying the situation, availability of materials and the man-hours required to use the various materials and finishes were considered.

Temporary or unfinished buildings were contemplated but were eliminated in favor of units matching the existing school plans. Frame and stucco construction, it was found, would be little if any more expensive than temporary wooden buildings.

Construction was planned to eliminate man-hours that might be turned toward vital war effort.

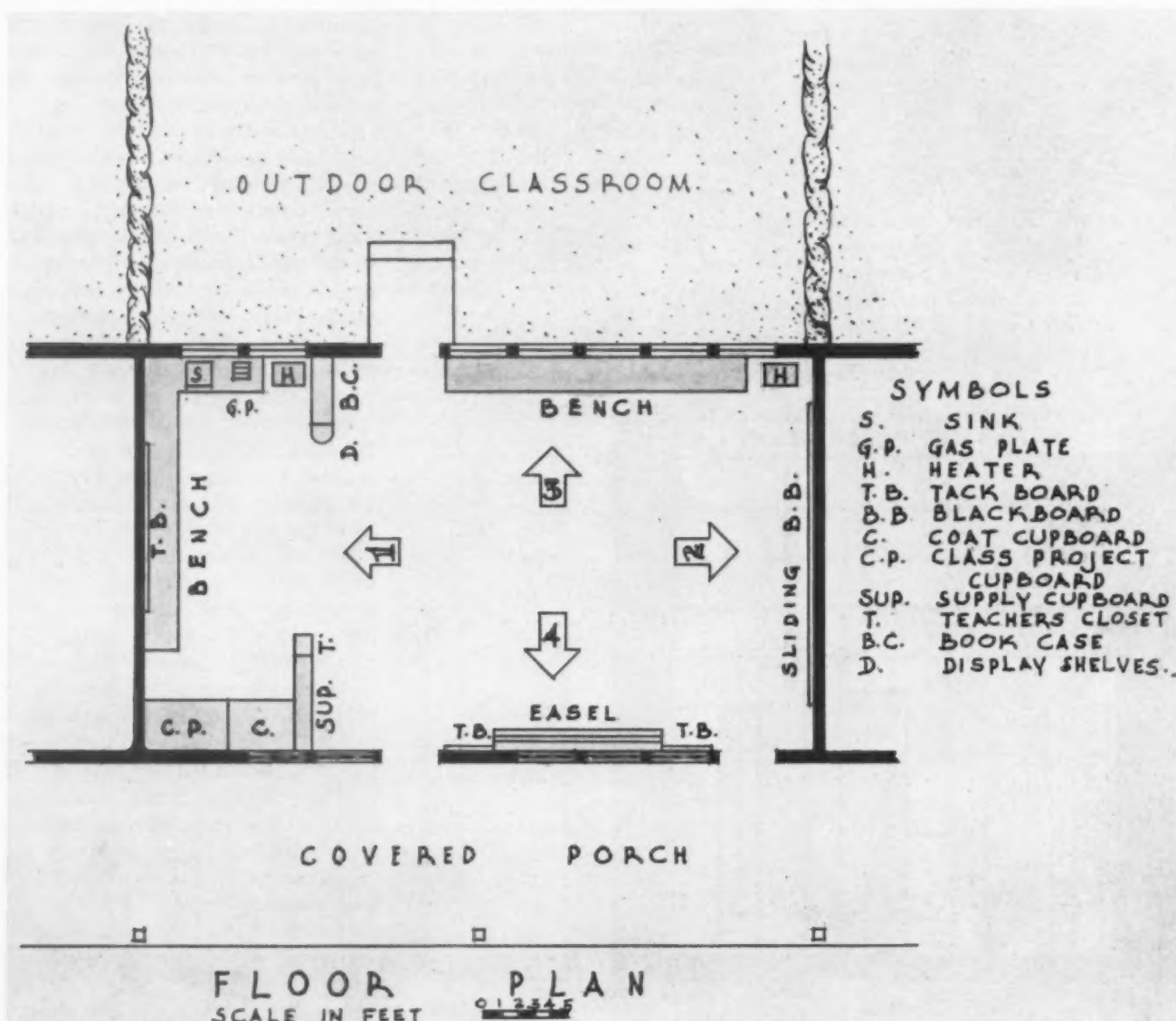
THE PLAN AS EVOLVED

Classroom design was standardized to expedite construction with concrete forms moved from one building to another. The fact that workmen became familiar with standard details and therefore worked without hesitation saved time. Also bids were lower where subcontractors could figure on producing the work over again.

Not only did work conditions influence the original plans but, as construction progressed, material that had been available at the outset was no longer available. This accounts for certain less desirable materials being used.

The buildings were placed at the various school plants as required. They contain from two to five rooms each with necessary toilet facilities and teachers' and janitors' rooms.

The design of these rooms was governed entirely by their function as designated by Mrs. Ardella Tib-



bey, superintendent of the Compton schools, and the California Division of Schoolhouse Planning.

OUTSTANDING FEATURES

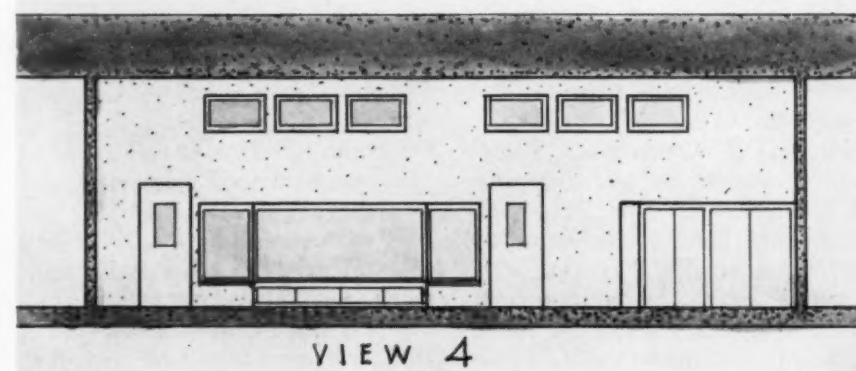
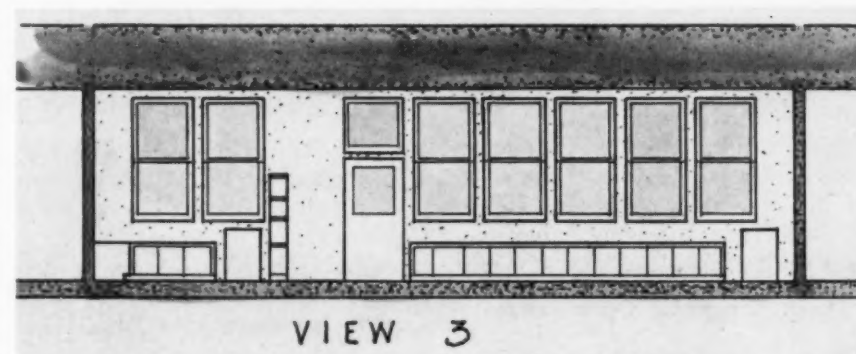
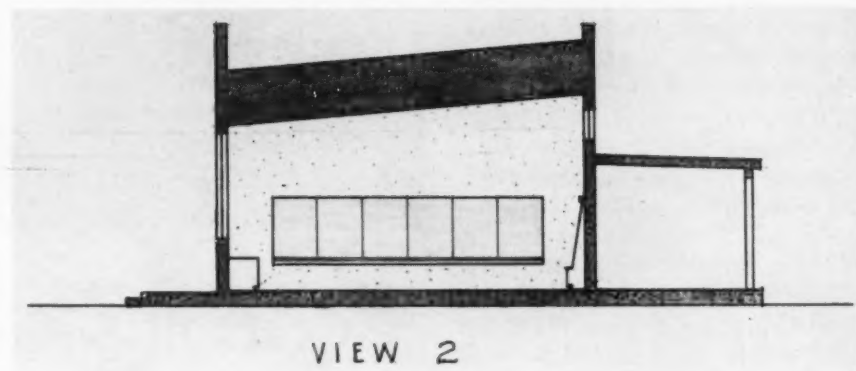
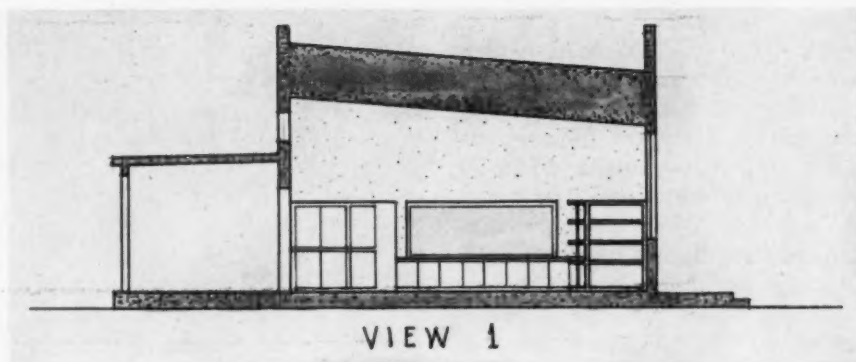
Availability of the gardens for outdoor work, storage space for pupil work, segregation of areas for projects, art and academic studies with an even distribution of light are outstanding features. Each classroom is divided into two sections, an alcove for project work and the main room for studies. Doorways lead to the garden area and make it possible for the teachers to carry on many studies in the open air.

The project alcove has a bench with cupboards for woodworking tools, a compartment for modeling clay, a sink and gas plate.

A cupboard is provided for the storage of large class projects that in most classrooms must be left exposed and in the way. A special feature is a separate storage compartment for each pupil located under the benches of the alcove and the main room. Each child is required to take care of his own materials. The alcove also contains a coat closet, with doors, for pupils' wraps and lunches. This is of minimum size as few children bring wraps because of the mild climate.

An open bookcase with adjustable and removable shelves for the display of pupil work on one side and with a spacious storage cabinet for supplies on the other side forms the partial division of the alcove from the main portion of the room. The supply cabinet has a full height compartment with lock for the teacher's personal use.

A blackboard at the end of the main room, with tack boards at either side, was originally specified to be of the sliding type that is convertible to either all corkboard or all blackboard. On the arcade side of the room is a permanent easel, which has proved successful in some other schools. The easel is covered with tackboard that is protected with a water repellent cloth when it is used for painting; the base of the easel is a small cabinet for the storage of water color jars or similar material. The top of the cabinet has removable metal containers to hold the water color jars when in use and serves as a palette. The jars are replaced in the cabinet when not in use and the metal containers may be



Additional elementary school facilities were needed for children of defense workers. Two to five room buildings were the answer.

thoroughly washed by removing them. The easel is flanked on both sides by tackboard for displays.

Aiding in visual education, art arrangements, pupils' projects and other work may be displayed on the bench under the large windows at the opposite side of the room. The bench is also useful in its true function.

Teachers may place desks, single movable tables, in several positions in the room. The design enables groups of pupils to be at work on projects while others are studying. Such flexibility permits the incorporation of new ideas as they develop.

Ceilings are of wood insulating tile of a warm off-white color, giving a good light reflection without excessive glare and providing acoustical qualities. Blinds are light green. Where subject to direct sun, walls are cool light green with accompanying wood trim of darker tone. Where north exposures occur a warm color is used for walls. Floors are a mottled reddish brown asphalt tile over waterproofed concrete slabs. This color shows dust to a minimum and has a pleasing warm effect. Architecturally its contrast to the cool green walls adds life and sparkle to the rooms. An almost even lighting of all areas is achieved by bilateral natural lighting. This is particularly successful from the standpoint of both eyesight and cost.

Each Room Has Open Porch

Rooms are connected to present buildings by arcades or open porches—advantageous in mild climates. While windows of the awning type were desired, good ventilation was obtained by double hung windows and by continuous transoms on both sides of the rooms.

Mechanical systems are at a minimum because of the war emergency but the structures were carefully designed and built to withstand the earthquake conditions normally required of them. The resulting emergency structures, with all the limitations imposed upon them by war conditions and lack of materials (practically no metals were used in construction), afford almost every opportunity for successful teaching of elementary grade pupils.

These buildings are owned and were built by the Federal Works Agency as a defense measure.



COLOR Softens Stark Lines

of reenforced concrete building

COLORFUL exteriors will not be overlooked in postwar design in the opinion of many architects. California and the Southwest have made considerable progress in this direction and here and there in other localities architects have done some pioneering in brightening the landscape by this means.

For instance, how cold and severe on a snowy day might the prewar structure pictured above look to the pupils and teachers of District No. 57, Kit Carson County, Colorado, had not the architect, H. W. J. Edbrooke of Denver, seen fit to have the whitewash brushes dipped in yellow. To complement the yellow walls, he chose a fairly strong blue oil paint for the exterior millwork.

One guess might be sufficient for the average reader to fix the Stratton School, here pictured, as a W.P.A. job. During the labor-gutted market of predefense days, relief workers who lacked construction skills were able to fit in well with the poured concrete type of construction. On this school job the walls were poured in sections ap-

proximately 4 feet high. The foundation is concrete. Steel trusses with wood purlins and sheathing support the roofing.

The plan of Stratton School may be suggestive of rural postwar construction, since the structure is built for community use. A large central gymnasium and auditorium, 46 by 75 feet, is flanked on either side by two classrooms, 22 feet by 32 feet 3 inches.

The front doors open into a broad corridor that runs across the entire width of the auditorium-gymnasium. At the far end of the great room is the stage, 46 by 21 feet. A boys' or girls' dressing and toilet room, on either side of the stage, completes the facilities for community use. The toilet-dressing rooms have shower bath facilities.

The auditorium has painted walls with an acoustically treated ceiling and the four classrooms have plastered walls. Floors, with the exception of those in the boiler room and toilets, which are of concrete, are of No. 3 common maple.

The central gymnasium accommodates a full-sized basketball court.

Curricular Trends in Iowa

O. F. MOORE

SUPERINTENDENT, GOLDFIELD, IOWA

WHAT subjects were commonly offered in high schools located in Iowa county-seat cities and towns ten years ago? Have such offerings been increased during the intervening decade? What new subjects have been added to the curriculums of these representative high schools? What has happened to high school enrollments during the last ten years? What has been the trend with reference to the number of teachers employed and the teaching load in such schools? These questions, among others, prompted this study for the years 1929-30, 1939-40.

Fifty high schools located in county-seat cities and towns, well distributed throughout Iowa, were selected for analysis.

Four high schools chosen from cities having a population of 10,000 or more are designated as group 1 in this summary. Group 2 is made up of 27 high schools in cities having a population between 2500 and 10,000. Group 3 is composed of 19 schools in towns having a population of less than 2500.

Pupils, Teachers, Subjects Increase

Enrollments have increased approximately 23 per cent during this decade. The largest increase was in group 1, while group 2 showed the smallest increase.

The average number of teachers employed was increased by 15 per cent. Group 1 showed the smallest increase while group 2 recorded the largest. This indicates that group 2 schools lowered the pupil-teacher ratio while group 1 and group 3 schools increased theirs.

The number of subject offerings increased approximately 10 per cent during the period. In 1939-40 the average number of subject offerings was 43 in group 1 schools, 32 in group 2 schools and 29 in group 3.

High schools located in the larger cities showed more liberal subject offerings than did those in the smaller towns. Likewise, the larger high schools expanded their curriculums more during the ten year period than did those in smaller cities and towns. Again, the larger high schools

have a lower teacher-subject ratio than do those located in smaller cities and towns.

Forty-three of these schools held membership in the North Central Association in 1940, 42 in 1930.

Favored types of organization in 1940 were the 6-2-4 and the 6-3-3 plans, 22 schools reporting the former and 12 schools the latter type of organization. Twenty-two schools shifted from the traditional 8-4 type of organization to some other type during the decade. There were no

GAINS AND LOSSES FROM 1930 TO 1940

SUBJECT	ADDED	DROPPED
LANGUAGES:		
Latin II	0	10
Latin III	0	18
SOCIAL STUDIES:		
Ancient History	0	12
Commercial Geography	0	7
Geography	13	0
SCIENCE:		
Arithmetic	0	7
Biology	21	0
Chemistry	8	0
General Mathematics	21	0
VOCATIONAL:		
Agriculture	11	0
Animal Husbandry	18	0
Business Training	18	0
Bookkeeping I	0	8
Farm Crops	14	0
Farm Management	11	0
Farm Shop	8	0
General	0	0
Home Eco. I	0	25
Home Eco. II	0	14
Homemaking I	35	0
Homemaking II	34	0
Manual Arts II	9	0
Normal Methods	0	14

changes in the matter of independent and consolidated school setup.

Forty-six schools offered normal training courses in 1930, but the number had dropped to 39 by 1940.

Twenty-two offered Smith-Hughes work in 1930 and the number was increased to 43 by 1940, all but 7 schools having put in some type of vocational work during the period.

Of the total of 77 subjects checked as offered by more than one school, 43 were offered in more schools in

1939-40 than in 1929-30, 28 in fewer schools; 6 were unchanged.

The subjects that showed the largest gains and losses during the decade, with the number of additional schools offering each subject in 1940 as compared to 1930, are shown in the accompanying table.

Curriculum expansions show gains in such subjects as homemaking, general mathematics, biology, vocational agriculture courses, business training and manual and industrial arts. The home economics and general agriculture courses have been displaced by homemaking and vocational agriculture courses.

Subjects that have lost most ground during the decade are the general agriculture and home economics courses, advanced Latin, normal training courses, ancient history, bookkeeping, commercial arithmetic, commercial geography and advanced mathematics courses.

Curriculum changes have apparently involved expansion more through the addition of new subjects than by substituting new subjects for the old subjects of more normal and classical nature. There has not been the dropping of old subjects from the curriculums of these high schools that might have been expected, although certain subjects previously required are now electives.

Old Courses Revised

On the other hand, the increase in the offerings of subjects in the commercial field, guidance, manual and industrial arts and in general courses (with the exception of general mathematics) has not been as great as might have been anticipated or desired. High schools in the southern half of the state have not expanded or changed their curriculums as much as have those in the northern part of Iowa.

Seventy-five per cent of these schools have had no change in administrative personnel during the last six to twenty years. Only 6 per cent have changed administrators within the last two years and 6 per cent have had the same superintendent and principal for over twenty years.

Converting from OIL to COAL

BECAUSE of the present fuel oil shortage and the possible difficulties of securing an adequate supply of this type of fuel, it became necessary to study the problem of conversion of the various oil burning units in the Roslyn Heights school system. Also, the Office of Price Administration has advised the conversion of oil burning units to coal whenever possible. According to the Fuel Oil Regulation:

"No ration shall be issued or used for the operation of convertible facilities for furnishing heat or hot water or both to premises other than private dwellings, except to the extent necessary to operate such facilities until the earliest date when conversion can be completed."

If the facilities are not convertible, it is necessary to obtain a certificate from the engineer of the Petroleum Administration for War.

Heating Engineer Called In

Of the several heating units in the school system the following were using fuel oil. (1) the unit located in the basement of the North Roslyn Elementary School; (2) the unit located in the basement of the main building of the Roslyn Heights Ele-

GEORGE S. BRYANT

ACTING SUPERINTENDENT OF SCHOOLS
ROSLYN HEIGHTS, N. Y.

mentary School; (3) the unit located in the pit in front of the portable building of the Heights School, and (4) the unit located in the basement of the home economics building of the Roslyn High School.

In order to obtain a complete picture of the problem we took the following steps: (1) secured the services of a heating engineer to analyze each unit and to submit his recommendations; (2) asked the representatives of three stoker companies to make surveys of the several units; (3) requested estimates of the cost of grates and other parts necessary for conversion; (4) checked the cost and availability of ash removal facilities; (5) investigated the cost of providing adequate coal storage bins; (6) checked with coal companies on the availability and cost of coal; (7) requested estimates on cost and time required to convert boilers to hand-fired units; (8) analyzed the labor problems from the standpoint of operating a hand-fired unit, and (9) submitted conversion survey reports to the Petroleum Administration for

War for its decision regarding convertibility.

In considering the conversion of the various units, the following questions were raised:

1. Is the hand-fired unit or the stoker unit more advantageous?
2. Is the conversion to be temporary or permanent?
3. What will the conversion cost?
4. Are labor and necessary parts available?
5. What facilities are available for coal storage and ash removal?
6. What additional labor will be necessary to operate the unit successfully?
7. How much time is needed to complete conversion?
8. When will weather conditions permit conversion?

Some of the advantages and disadvantages of each type of installation may be found in the accompanying table.

Permanent or Temporary?

In general, the stoker would be a permanent installation while the grates would be a temporary measure and might be easily reconverted after the war. There is little difference in the time required to complete the installation of either type of unit. Both anthracite and bituminous coal are available in sufficient quantities to meet our needs.

In considering conversion of the North Roslyn boiler, our purpose was to effect the necessary change with the minimum cost of installation and operation and to maintain the most effective heating system for the duration of the war. This unit had been equipped with a sectional type of boiler. It was originally coal fired but had been converted to oil; at the time of conversion additional sections were added to the original boiler to meet the heating needs of

STOKERS VERSUS GRATES

Automatic Stoker Unit Using Bituminous Coal	Grates, Hand-Fired Unit Using Anthracite Coal
ADVANTAGES	
From 15 to 20% lower cost per Btu. of bituminous coal	Smaller installation cost
Less ash removal	Easier reversion to oil
	Cleaner fuel
DISADVANTAGES	
About 75% higher installation cost	Additional labor required for operation
More frequent boiler cleaning	Higher fuel cost
Small maintenance cost of a mechanical unit	

the building. We decided to convert this unit to one that was hand fired, using anthracite coal for the following reasons: (1) the engineer's recommendations indicated definite advantages; (2) the grates and necessary equipment were on hand; (3) there was adequate space for coal storage in the boiler room; (4) anthracite coal was available in sufficient quantities; (5) ashes could be removed easily; (6) the estimate of the heating contractor for conversion was \$130; (7) conversion could be completed over a week end, and (8) additional labor for the operation of the boiler was obtainable.

As the result of conversion survey reports previously submitted to the Office of Price Administration, we were ordered to convert the boiler in the Heights Elementary School and were advised to submit the conversion survey reports of the two other units, each burning less than 10,000 gallons of oil annually, to the local ration board. Because the conversion of the Heights Elementary School involved the removal of building partitions, we called in an architect to consult with the engineer.

We shall undoubtedly convert to coal and automatic stokers in the three remaining units for the following reasons: (1) no grates or operating equipment are on hand; (2) additional labor for the operation of these boilers will be difficult to obtain; (3) these conversions will be considered permanent installations.

Oil Burner Is Safely Stored

We have obtained the necessary permission from our local ration board to continue using fuel oil until conversions can be completed.

We asked the U. S. Weather Bureau to advise us as to a suitable period for the conversion of the boiler in the North Roslyn Elementary School in order that we might prevent freeze-ups. It made a recommendation.

A coal bin was built in the boiler room to hold 15 tons of coal. We engaged the services of a high school senior to assist in the operation of the boiler. The tools and equipment for firing and ash removal were adapted to meet the needs of the larger unit. The heating contractor started the conversion on January 30 and completed the job the following day. The oil burner with all its parts was safely packed and stored.

The cost of operating this unit, including the additional labor, is approximately the same as it was before conversion to coal. However, we plan to reconvert this unit to oil after the war.

In converting the other units to automatic stokers we expect to effect

a saving that will pay for the installations over a period of five to six years. Our engineers are now checking the size of the stokers to be used in each of the remaining units before we request sealed bids from the various companies. We shall then proceed to complete the installations.

BETTER PLANT PRACTICES

Training the Untrained

The extent to which repairs and renovations can be accomplished this summer rests with the personnel situation. Some frankly announce programs "severely curtailed"; others express the intention of carrying along as normally as conditions will permit. They realize the seriousness of the problem and are prepared to cut their pattern to the cloth, rationing notwithstanding.

As Raymond R. Gregg, business manager, Eastern Illinois State Teachers College, Charleston, Ill., puts it, "We cannot look ahead and see what changes the present war situation may introduce in the next few months."

In the meanwhile Mr. Gregg, like many others, is carrying along as normally as possible. "When we have replacements to make," he states, "we usually 'break in' the new employe with verbal directions and team him up with an employe who has proved himself proficient. The two work together for several days, thus allowing the new man to ask questions and take directions from the older employe."

Custodians' clubs are coming to the rescue in communities such as Sioux City, Iowa, where H. C. Roberts, secretary and business agent, tells of work clinics in which the experienced men explain the use and care of working tools for maximum efficiency and preservation and show each man how to perform the several operations.

Burbank Has Headaches

Let's study the situation in Burbank, Calif., a city having an approximate population of 65,000. The 30 or 40 defense industries there employ more people than the entire population.

"Our custodial problem is a headache," Leo G. Forth, business manager, admits. He cites the following reasons: "First, the unprecedented growth of the regular schools; second, the establishment and rapid expansion of the vocational training program (twenty-four hours, seven days a week); third, the patriotic appeal of work in war production plants, and fourth, higher wages paid in such industries."

Here is how the problem is being met at present. "People who do not meet our normal minimum requirements," Mr. Forth explains, "are given written schedules and instructions, supplemented by personal supervision. Our custodians are working from one to four hours overtime daily. If the situation becomes worse we will have to curtail some of the cleaning program."

"The maintenance program during the summer, like the regular custodial work, will have to be tailored to fit the available labor. At the moment we cannot predict what we will be able to do. We will budget all necessary work and take care of as much as possible."

Pontiac Operates School

D. E. McGrath, superintendent of buildings and grounds, school district of the city of Pontiac, Mich., favors a combination of verbal and written instructions.

"Our people," Mr. McGrath states, "are furnished with written work schedules that are supplemented by instructions in the use of materials and equipment by both the supervising engineer and the manager of the storeroom. We endeavor, wherever possible, to place new employes in buildings where there is either a head custodian or engineer-custodian who is in charge of custodial work. In such instances this man is responsible for the employes under him and their training. We have not had too much difficulty although our labor turnover is the largest in years."

Mr. McGrath has not lost too many trained engineers thus far, but he has no illusions about the future. In consequence he is operating a school for custodians and engineers with a twenty clock hour unit training course in heating and ventilating in association with the vocational education department. The class meets two hours each Saturday afternoon over a period of ten weeks and is attended by engineers, firemen, custodians, bus drivers and maintenance people who are ambitious to be placed in engineering work.

Bus drivers are causing the greatest concern in Pontiac, chiefly because of the

high standards that must be met. These men must be physically fit, active and mechanically inclined so that they will fit into the maintenance program as helpers to mechanics, electricians and painters.

Matrons are proving no difficulty at all. They are trained by the men in the buildings and all the employees are required periodically to attend general maintenance meetings for open forum discussions on the use of materials and equipment furnished by the school district. Here they bring their individual problems and learn how to meet major problems.

Mr. McGrath believes it will be necessary to curtail the summer maintenance program severely. "However," he states, "heating plants and plumbing equipment must be checked with particular care and given special attention. To date we have been able to obtain necessary repair parts for this type of work. The rest of our effort will be directed to protective maintenance, such as roofing, gutters, exterior painting and brick pointing.

"This is a good time to make needed repairs on old buildings and to plaster ceilings that are getting in bad condition. Rock lath and plaster are non-

critical materials and are economical to use where remodeling is not in order. If the average school man will study his plant, particularly older buildings, with the idea in mind that this is the best time to do much work that requires noncritical material and that has been postponed because of the trend toward modernization, he will find many items that can be done using a minimum of skilled labor."

Introducing a Work Schedule

Included this month is a work schedule for a new custodian recently completed by Orlando Johnson, superintendent of buildings and grounds for the junior high school in Michigan City, Ind. This marks the school's initial attempt in written instructions but good results are anticipated.

"In the event of the absence of a custodian," Mr. Johnson points out, "such a schedule will serve as a guide for the substitute and save the time of our maintenance men who otherwise would have to stay with the substitute the first day. This schedule has already been revised and will be changed further as the need arises. Eventually, we shall have a similar schedule for all custodians.

"We ask our custodians to write down the day's activities as well as all special work done on Saturdays. Some of them appreciate for the first time the importance and complexity of their work when they attempt to write down what they do. The schedule also gives the superintendent of buildings a better chance to correct practices that are wasteful of time and effort."

CUSTODIAN WORK SCHEDULE

First duty each morning, unlock rear and west doors. Last act before leaving at night, check all windows. Lock all windows on the first floor. Be sure doors are locked.

Room 101, Woodshop: Second period.

Room 104-105: Sixth period.

Room 106: Lunchroom at noon, for cleaning.

Room 107: Lunchroom at noon, for cleaning.

Room 109: Kitchen, second period.

Room 110: Girls' gymnasium and showers, 8:30 to 8:45 a.m. Check foot tub each morning and fill with proper amount of solution (1 lb. to 1 gal. water). Each fourth morning dump the tub and refill with new solution.

Room 114: Fifth period.

Room 115: Storeroom, clean twice each week or as needed. Dust each morning. First floor stairway and halls, clean every day, a.m.

Rooms 204-205: Girls' room and teachers' restroom—7:05 to 7:30 a.m. Wash washbowls every day. Wash toilet seats and toilets every day or oftener if needed. Scrub floors every Saturday.

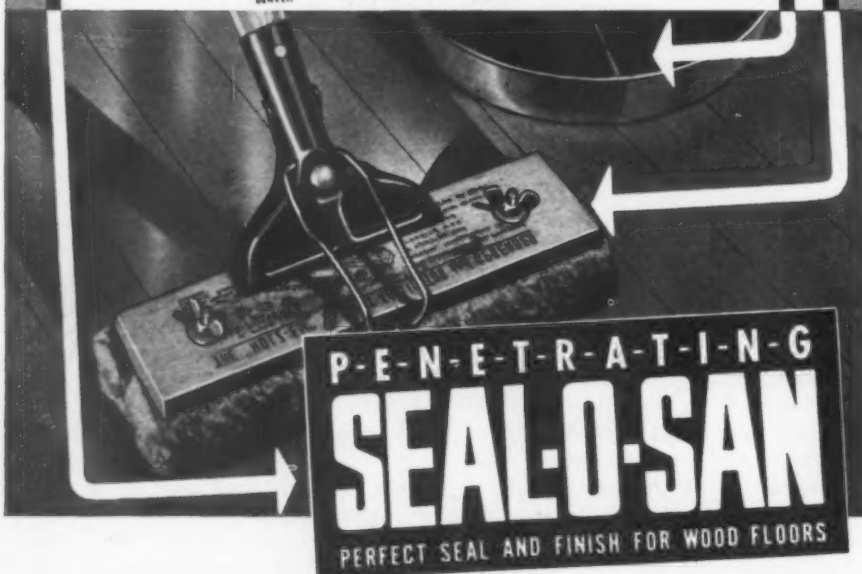
E is for easy, economical application and easy, scrub-free maintenance that you get with Seal-O-San. And E stands for the endorsement of 5350 school executives whose continued purchases of Seal-O-San attest to its excellence as a finish for classroom floors.

A is for the armor-clad, wear-resisting Seal-O-San finish that never shows traffic lanes . . . for attractive appearance and cleanliness that amazes. All are the result of Seal-O-San's deeper penetration which seals cracks and crevices and locks out dirt and moisture.

S is for the sanitary surface that you get with a Seal-O-San finish—a surface reinforced against dirt—a smooth, spotless surface that not only looks clean but actually is clean. That's why pupils can come in contact with a Seal-O-San floor without danger to health.

Y is for you and your janitor. Both of you benefit when you apply a Seal-O-San finish on your school floors. Your janitor spends less time on floor maintenance. You save the cost of frequent refinishing because Seal-O-San is a longer-wearing floor finish.

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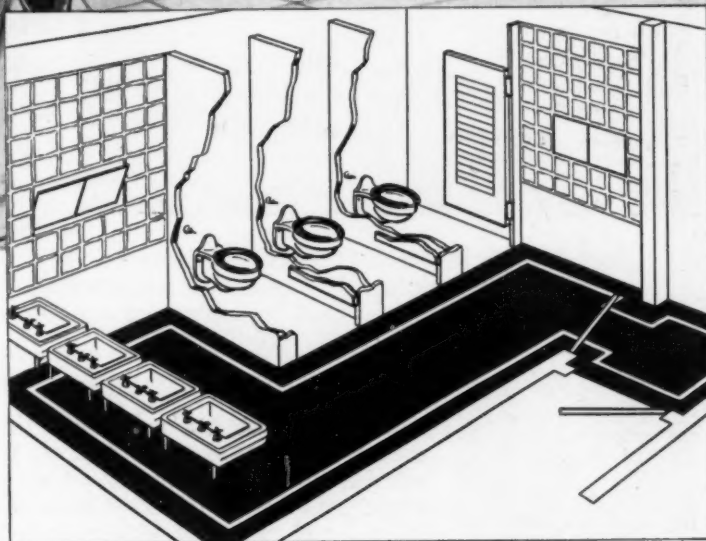
F OR MAINTENANCE TODAY OR FOR *Plans of the future*



FOR THOSE schools where plumbing replacements cannot be deferred until the war is won, Crane has designed a line of fixtures, including lavatories, closets and urinals made of vitreous china that require only a minimum of critical materials. The use of this equipment will conserve vital metals for a more important job of winning the war.

Where replacements can be deferred, it is good judgment to do so, for not only will the end of the war permit the use of metals now strictly rationed, but it will also permit the introduction of new designs and new ideas in school plumbing.

Right now, Crane designers and Crane laboratories are working on improvements in sanitary equipment—equipment specially designed to stand the hard usage to be expected in schools.



Because of the difficulty of securing new equipment, it is wise to take care of the plumbing you have already installed. Why not have your Plumbing Contractor check your sanitary equipment and make whatever repairs are necessary? Oftentimes, a small repair now will prevent costly replacements later.

CRANE

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Room 206: Sixth period.
 Room 207: First period.
 Rooms 211-212: Boys' toilet and men's room. 1:00 p.m. Same instruction as for Rooms 204 and 205.
 Room 213 Noon hour.
 Room 214: Noon hour.
 Room 215: Study hall. 4:30 to 5:00 p.m.

Second Floor Stairways and Halls: Afternoon.

Entrances: Clean windows at both entrances each day.

Auditorium and Stage: Clean stage and dust as needed, at least two times each week. (In general, when stage

properties are to be set, both custodians will work together until the job has been completed. It will be necessary to arrange the stage work in regular work schedule to the best advantage. When there is a conflict with regular work, the stage setting will be done first. Regular work will be caught up soon.)

Auditorium: First floor, clean as needed.

Drinking Fountains: Clean every day.

All rooms: Dust each day.

Wastebaskets: Empty each day and oftener when needed.

Clocks: Wind each Saturday. If necessary, set clocks each day.

Kitchen (Room 109): Mop and scrub every Saturday.

When We Have Snow: Mr. Dabbert will clean west walk from building to the sidewalk. Mr. Pahs will clean north walk from building to sidewalk. Both will shovel snow from the sidewalks until they have been cleaned.

Watering Grass and Shrubs: Mr. Pahs will take care of the hose to the west. Mr. Dabbert will operate the east hose on front lawn and the one between the two buildings.

Cutting Grass and Care of Lawn: The two custodians will work together. One will operate the mower and the other will cut and trim grass around trees and shrubs. Work done on the school yards (watering, cutting grass, hoeing around shrubs) will be considered work of both custodians.

Wastepaper and Rubbish on the School Grounds: It is the job of the custodians to keep the school premises free from loose paper and rubbish.

Rules and Regulations: Familiarize yourself with the rules and regulations of the Michigan City public schools as they apply to the superintendent of buildings and grounds and to custodians.

Change in Work Schedule: This work schedule may be changed with the approval of the superintendent of buildings and grounds at any time there is evidence that it will facilitate doing the work.

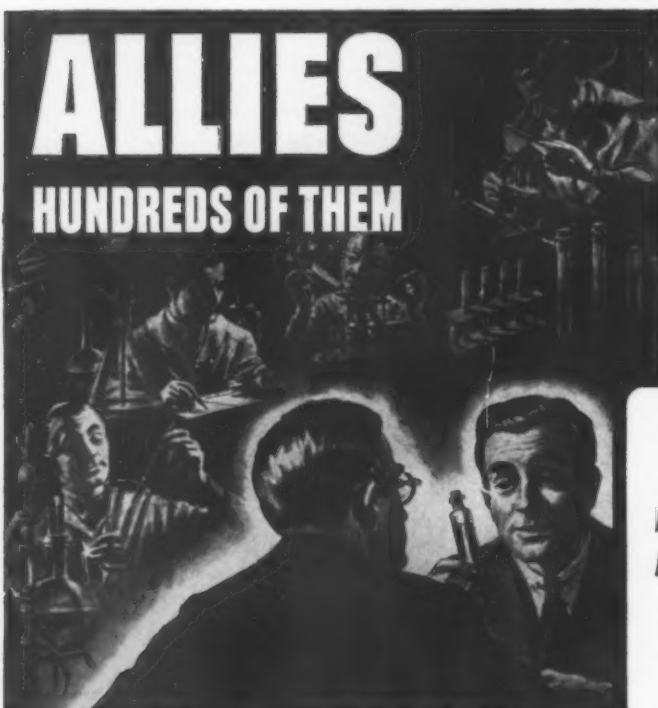
Freight and Express: Custodians will receive freight and express at receiving door or direct the delivery man to the proper place.

Miscellaneous Cleaning: At any time the windows and doors need washing, the entrances become dirty or fixtures dusty, the custodian must consider it his job to give this his attention in order to keep the building neat and sanitary.

Community Use of Schools

To what extent should school property be turned over for community use during the war period? Many school officials seem to agree with G. R. Scofield, superintendent, Stratton public schools, Stratton, Colo., that "any religious group or political organization be permitted to use our school buildings for meetings free of charge if admission is not charged at the door.

"I have urged my school board," Mr. Scofield continues, "to take the attitude that the school is a real community project that should be available at all reasonable times under all reasonable circumstances to any active group that contributes to our community welfare." He adds, "Of course, we are a small community and are not confronted with the many problems that a larger school might encounter. The groups that have occasion to ask for our building are naturally few in number."



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Because he brings with him the experience not only of hundreds of chemists, bacteriologists, physicians, scientists and safety engineers but also the practical experience of school executives and superintendents.



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West's **SHOWERSAN*** meets with instant preference BECAUSE IT IS ODORLESS. With it you can institute a routine by which **ATHLETE'S FOOT** infection can be kept from contaminating your shower and locker-room floors and the feet of those who use them. Because of its high bacteriological efficiency, **SHOWERSAN** is very economical to use. A solution of 2 ounces to a gallon of water is recommended.

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Write for the Showersan Circular and weigh the advantages of this improved product.

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Many a school district has been saved the cost of new floors through the advice and expert workmanship of Hillyards Floor Treatment Engineers in rejuvenating the old dirty and apparently obsolete floor. Hillyards have treatments and maintenance products made especially for each type floor. In every classification—Floor Seals, Finishes, Waxes, Dressings and Cleaners—you will find that they give your floor longer life with less spent for upkeep.



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THE SCHOOL CAFETERIA

CONDUCTED BY MARY D. GARMO BRYAN

Plate Lunches in War Time

Substitutes and extenders make these lunches tasty, nourishing

CONSTANCE C. HART

DIRECTOR, DEPARTMENT OF LUNCHROOMS
BOARD OF EDUCATION, ROCHESTER, N. Y.

LIKE every other lunchroom, we have been faced with conditions necessitating changes in menus. Having made a comparative study of the price of food in June and September and discovered an increase of from 15 to 20 per cent, we raised our prices accordingly. The price of soup, milk and mashed potatoes remained the same as last year. These changes were made in September rather than later in the year. By introducing the changes gradually with little publicity it was easy to accomplish our purpose.

Meatless Days Can Be Popular

At a special meeting of our managers we decided to have a meatless day other than Friday and not to make any comment about it to principals, teachers or pupils. On that day we would offer our most popular meat substitutes and meatless sandwiches. These include macaroni and cheese; spaghetti and cheese; noodles, cheese and tomatoes; baked beans; creole lima beans; tomato or Welsh rabbit; scrambled eggs and noodles; escalloped rice; cheese and eggs; macaroni loaf with peas and egg sauce; noodles and cheese; Spanish rice, deviled eggs with cheese sauce, and Mexican rabbit. Sandwiches are toasted cheese, cream cheese and olives, lettuce and tomato, shredded lettuce, egg combinations, pimiento cheese, cream cheese and nuts, celery and olives, baked beans, peanut butter, salmon and American cheese.

We found in our lunchrooms that we could popularize meat substitutes by serving them in individual casseroles. This might not be feasible

in a large system as it means an increase in labor, but children as well as adults like this individual service.

Effective Meat Extenders

To cut consumption of meat further, smaller portions of meat have been served on plate lunches and servings of salads and vegetables have been increased. In some recipes, such as meat stews, the proportion of vegetables has been increased and biscuits served with the stews are slightly larger. A popular meat extender is a meat shortcake of browned ground meat in a rich gravy put between halves and on top of a hot baking powder biscuit. Small cakes of sausage meat (30 scoop) are put between two biscuits and served with cheese sauce; escalloped potatoes combine well with sautéed chipped beef, ground ham or finely chopped wieners.

Baked pork chops cut thin and served with a stuffing are acceptable to both teachers and children. We also serve baked hearts with dressing and gravy. In preparing certain dishes for our faculty we use sautéed mushrooms as a meat extender. Mushrooms are not popular in the children's lunchrooms, however. Croquettes made with a small amount of ground ham, beef or wieners combined with rice, spaghetti or mashed potatoes and served with a thick white, cheese or tomato sauce, plus a tossed mixed vegetable or green salad, potatoes or a vegetable, are popular plate lunches with both

teachers and pupils at the noon hour.

One of our local canneries has a large contract with the government to can chickens and has a by-product of chicken stock. We have been buying this and using it as a base for our soup (when we could not get meat and bones) and as meat flavoring in some of our meat extender dishes.

Soy Beans, Peanuts Give Proteins

We have been emphasizing the use of soy bean flour and have been conducting some experiments using 20 parts soy bean flour and 80 parts whole grain flour in bread and rolls. In making muffins we have substituted soy bean grits and soy bean flour for the cornmeal in the cornmeal muffin recipe. We have also been experimenting with soy bean cookies and the girls in our test kitchen have been enthusiastic about the results. At present we have been having a little difficulty in getting the soy bean flour but it will be coming through shortly.

We are sprinkling peanuts generously over many of our salads in the hope that it will increase their protein content. By using soy bean flour and peanuts, together with other meat alternatives, we hope to maintain an adequate supply of protein in our menus.

More Answers

Prepared puddings offer one answer to the dessert problem. Then, too, we are using the Agricultural Marketing Administration commodities in the homemade molasses, peanut butter and oatmeal cookies. Honey, maple sugar and corn sirup

A **R**ainbow of Flavors

● Colorful? Yes! Singly or in combination, Edelweiss Gelatine Desserts are gay and attractive. The fifteen exquisite flavors offer the extraordinary advantage of variety with uniformly delightful results. And such unusual flavors—for instance, banana, apricot, ginger ale and mint. What palate-tempting delicacies can you conjure up with these. Profitable? Decidedly! The low cost per serving means a most satisfactory margin for you.

GOOD FOOD FOR
PLEASED GUESTS



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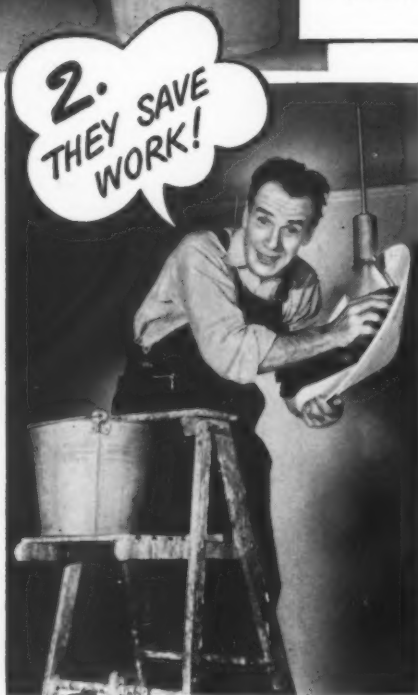
IT PAYS TO STANDARDIZE on Colgate-Palmolive-Peet maintenance soaps, as many large schools have discovered. For one thing, we have the right soap for every type of cleaning job. In addition, there's the convenience of getting all your soaps from one dependable source.

Most important, though, are the economies you effect, because C.P.P. maintenance soaps save in three important ways. *First*, they save expensive refinishing! *Second*, they save time and labor! *Third*, they save substantially in material costs!

Before you order your next supply of maintenance soaps, call in a Colgate-Palmolive-Peet representative and ask for details on the full line of C.P.P. maintenance soaps. Or write direct to our Industrial Department at Jersey City, N. J.



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THEY SAVE
WORK!



3.
THEY SAVE
MONEY!

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are basic in our homemade sweet rolls and putting one of these or a fruited muffin on a plate lunch does much to satisfy the child's sweet tooth.

Last year we tried to keep our ear to the ground and, when possible, to purchase spot canned goods to an advantage. As our usual medium red salmon is shipped to the soldiers, we are using pink salmon for our salmon loaves, combined with a small amount of tomatoes for moisture and color. In salmon salads a small quantity of red salmon is combined with the pink to add a little color. We have a contract with one of the frosted food firms for frozen haddock, perch and cod for this year.

When we cannot buy vegetables in No. 10 cans, we buy them in No. 2 cans. This means more labor opening the cans but it means either getting the vegetables or not having them at all.

Heretofore, we have always given our faculty a second cup of coffee free of charge. When cuts on coffee shipments began, we charged for the second cup; now we serve only one.

The butter situation has become acute. With the decreased butter supply and the limitation on whipped cream, the amount of vitamin A in the children's diet has been affected. We are trying to make up for this lack of vitamin A by including more of the dark green and yellow-orange vegetables, such as kale, escarole, spinach, the outer leaves of lettuce and cabbage, beet greens, dandelion greens, Swiss chard, peppers, yellow turnips, Hubbard squash, sweet potatoes, carrots and pumpkin, on our plate lunches.

Because of the butter restriction we have found the following extender useful in sandwiches and butter cream frostings:

EXTENDED BUTTER

1 tbsp. gelatin
1 lb. good butter
1/4 cup cold water

1 14 1/2 oz. can evaporated milk

Soften the gelatin in 1/4 cup of cold water. Place it in a dish of hot water and stir until the gelatin is thoroughly dissolved. Cut the butter into small pieces and place it in a dish over hot water until it is quite soft. Do not melt. Gradually whip the evaporated milk and the dissolved gelatin into softened butter with a Dover egg beater or an electric mixer. Add salt to taste. If the milk sep-

arates, continue beating until it is all mixed in. Pack the mixture into a dish or container and put it on ice or in cool place until hard. It should be kept in a refrigerator when not in use. Coloring may be added if desired. This extended butter cannot be used in cooking.

We have also been experimenting with another butter extender, using one third enriched oleomargarine and two thirds butter to which a little coloring is added. The proportions on this may have to be in-

creased with need as time goes on.

The labor problem is a basic difficulty. It is a unique experience for us to have such a large turnover in our lunchrooms. New employees are mostly women who have never worked before and have to be trained to our standards. Therefore, we decided to give each new employee a list of suggestions and have the manager go over it point by point with her. The help is of such poor caliber that it takes constant supervision to maintain any semblance of standards.

The mighty surge of war production carries with it a load of figure work that is breaking all records. Want ad after want ad asks for employees that know Monroe operation—the schools that are meeting this demand are helping to win the war.

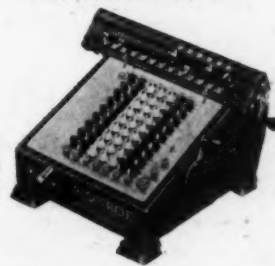
Because Monroe man-power and materials are now concentrated on making direct munitions of war; new Monroes are not available. But the Monroes you now have were built to last for years; and we offer all schools using Monroe machines these definite wartime services at a nominal cost.

1. Guaranteed Maintenance Service through regular inspections by trained mechanics who will keep your Monroes operating efficiently.
2. A 30 Lesson Office Practice Course in the elements of business arithmetic and Monroe operation.
3. An advanced School Manual of Instruction of 200 pages that will

help you give the increased training needed to meet the wartime demand for figuring skill.

4. Advice on special problems for advanced classes. To use your Monroes to the full and to keep them operating day in and day out—take full advantage of Monroe's wartime service. Call the nearest Monroe branch for full details or write to our Educational Department.

KEEP YOUR MONROES AT WARTIME PITCH



MONROE CALCULATING MACHINE COMPANY, INC.
ORANGE, NEW JERSEY

PLATE LUNCHES

Discontinued

Plate lunches are out in the schools of New Castle, Pa., according to Mrs. Rachel P. Taylor. Too many substitutions were requested and there was not enough help to cope with the problem.

All servings are 5 cents with the exception of sandwiches, which sell for 8 cents. Until recently each slice of bread was buttered but this is now restricted to one side only. Milk continues at 4½ cents a pint.

"Ice cream is what the pupils miss most," Mrs. Taylor explains. "We have removed candy entirely from the counters. This means that the consumption of pie and cake has doubled. To control this we allow only one serving per person. We rotate hot bran and plain muffins, nut bread and corn bread. Assorted canned and fresh fruits are always available and we sell apples the year round for 1 cent. Our receipts are 32½ per cent over last year."

Here are some of Mrs. Taylor's high school menus:

Monday

Creole soup
Hot barbecue sandwich
Buttered dried limas
Creamed peas
Fig and grapefruit salad
Celery, cheese, pickles, olives
Baked apples, custard sauce
Gingerbread, whipped cream

Tuesday

Cream of mushroom soup
Rice croquettes, cheese sauce
Baked corn
Candied sweet potatoes
Salmon salad
Molded pear salad
Cherry pie
Chocolate pudding

Wednesday

Vegetable soup
Baked hash
Buttered celery and carrots
Creamed onions
Coleslaw
Fruit salad
Chocolate Boston cream pie
3 Gelatin, whipped cream and nuts

Thursday

Chili soup
Baked wieners and kraut
Mashed potatoes
Buttered green beans
Waldorf salad
Deviled egg salad
Apple roll, orange sauce
Lemon sponge cups
Prune whip

Friday

Tomato soup
Macaroni and cheese
Buttered turnips
Harvard beets
Molded fruit salad
Combination salad
Marble cake
Cream tapioca



How simple OUR task!

Back of a thirty-minute bomb attack lie months of work and training, of planning and study, of photographing, measuring, plotting, of making and transporting the hundreds of things which make possible the perfect teamwork vital to success.

By contrast, your task—and ours—of providing sure, safe, instantaneous exit for the occupants of buildings is simple, and easily accomplished.

It requires only your insistence on genuine Von Duprin fire and panic exit devices at all exit doors. Once the devices are installed, you can be certain beyond doubt that—in ANY emergency—every occupant of the building who reaches the doors will get out safely, easily, quickly.

Current model Von Duprins (The Victory Line) are made of strong, non-fracturing malleable iron. They are plain and simple in appearance but in sturdiness, in reliability, they not only equal—but surpass—former models.



BOOKS ARE TOOLS OF KNOWLEDGE



A Manual of Aircraft Drafting
 Designer: D. Van Nostrand Co., Inc. Publisher: D. Van Nostrand Co., Inc. Binder: Cornwall Press. Material: PX Cloth.

WORDS FROM THESE PAGES

SPELL *Victory*

Books like this are tools of knowledge. Tools of the draftsman which *must stand ready* to help design those flashing wings of the sky that speed our Victory.

Books like this *will endure*. Their fine bindings of PX Cloth or "Fabrikoid,"* armored with tough pyroxylin anchored to strong, cotton-base fabrics, protect them against wear . . . make them hygienic, washable in soap and water.

Because of the many war uses for Du Pont coated fabrics, for the duration you may not be able to secure all new books you may need bound in PX Cloth or "Fabrikoid." But until Victory, these protective materials will continue to serve books now in use . . . tools that are helping American men to forge the world's finest weapons for our armed forces. E. I. du Pont de Nemours & Company (Inc.), "Fabrikoid" Division, Newburgh, New York.

*"FABRIKOID" is Du Pont's registered trade mark for its pyroxylin coated and impregnated book-binding material.



PX CLOTH "FABRIKOID"

BETTER THINGS FOR BETTER LIVING . . . Through Chemistry

Short of Help?



You can still serve
 fine quality
 Baked Goods with
**Downyflake-Fixt
 Mixes**



1. Downyflake-Fixt Mixes are *batters in dry form*! Even a child can bake wonderful muffins and cakes with them. That means you need *less help and less experienced help*. You add nothing but water.
2. *Now*, all Downyflake-Fixt Mixes are made with enriched flour for added Vitamin B₁, Niacin and Iron—giving them extra nutrition values so important to child health, supplementing meat-rationed diets with foods children like to eat.
3. They are "ready made foods"—come to you ready mixed—need no additional butter, eggs, milk or other hard-to-get staples. They cost less too, in time and money, than preparing your own batters.

Downyflake-Fixt Mixes are ideal for school cafeterias—especially in these days of labor and other shortages. Tempting corn and bran muffins . . . delicious Devil's Food cake and Ginger Bread . . . other high quality prepared "batters in dry form" . . . all help to bring appetizing variety to daily menus.

Feature a different one every day. Feature their high nutrition value, too! And don't forget to make full use of the wide variety of other time-and-labor saving Downyflake-Fixt Mixes. Order them today!

**Downyflake
 FIXT**

Food Products

DIVISION OF DOUGHNUT CORP. OF AMERICA
 393 Seventh Avenue • New York City, N. Y.

Waffle • Biscuit • Egg Griddle • Buckwheat Griddle • Bran Muffin
 Corn Muffin • Ginger Cake • Yellow Cake • White Cake • Spice Cake
 Coffee Cake • Dehydrated Egg Mix • Pie Crust • Devils Food • Handy Donut

SONG SLIDES

are easy to make and the singing is fun

G. W. LEMAN

PRESIDENT, NEW JERSEY
VISUAL EDUCATION ASSOCIATION

ALTHOUGH the glamour and appeal of the standard lantern slide, oldest of all projected visual aids, may be outclassed by the stimulating action and commanding sound effects of the modern motion picture, the slide has lost none of its real value as an educational tool.

In our enthusiasm for the splendid educational moving pictures and other new commercially prepared visual materials made available to us in recent years, we may tend to neglect the potentialities of the hand-made slide as a medium for creative work in our schools. This applies to all areas of learning from the first grade through high school and college.

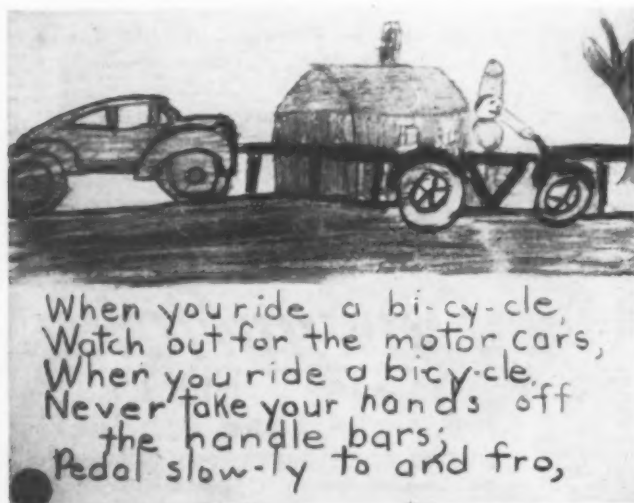
Song slides have been prepared and used by music teachers for many years as an aid to group singing. Usually they consist of nothing more than the words of the song typed with special carbon on cellophane and bound with or without mask between lantern slide cover glass.

Interesting results may be achieved in this type of slide by dividing the words of a song into units and accompanying each group of words with designs in color. In the upper grades or high school the services of the art department can be enlisted for the development of designs. In the elementary school where there may be no special teachers of art and music, the teacher has an excellent opportunity to stimulate interest and make the art and music work more meaningful through the preparation of song slides. They can be constructed by pupils or the teacher on a variety of inexpensive and readily available materials that are easy to use.

Etched glass is the medium best suited for this work in the lower grades. An example is presented in the accompanying illustration of a slide made by pupils in the second

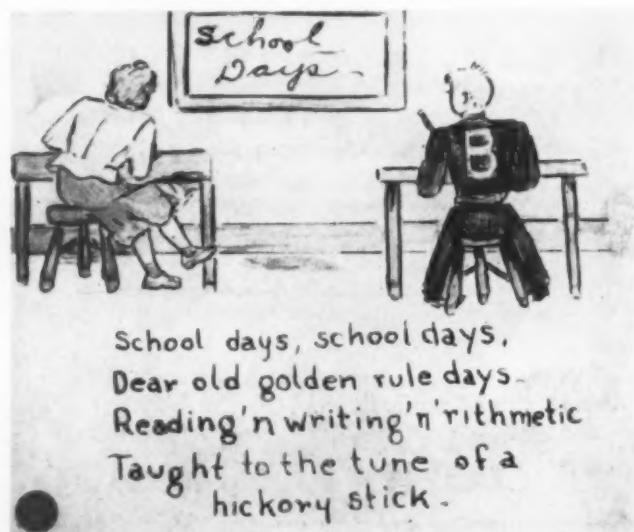
grade. The children were asked if they would like to learn a new safety song. The words of the song were grouped in two units and written on the blackboard by the teacher. Each child illustrated the units according to ideas conveyed to him by the words. These illustrations were created on large sheets of drawing paper with wax crayons. The pupil whose drawing was best liked, according to popular vote, was then given the opportunity to draw it again, this time on etched glass, and to color it with crayons used especially for this purpose.

This process was repeated in the preparation of each slide of the entire song. Words were written in black pencil on the lower part of the slide as shown in the illustration. The children not only enjoyed learning and singing the song from the projected slides but were enriched by the opportunity for creative expression in constructing the preliminary original designs. They were thrilled



Above: Safety song slide using special crayons on etched glass.

Below: Slide from "School Days." Colored pencils on etched glass.





**FILMOSOUNDS HELP
UNCLE SAM CUT
TRAINING TIME
up to 40%!**

**No wonder all Filmosounds we can build
are going to the armed forces!**

Because motion pictures are proving so highly efficient in training the men in our armed forces—because they accomplish so much so quickly, the Government needs every Filmosound Projector that Bell & Howell can build—and that's where they are all going now—so take good care of your Filmosound or silent Filmo Projector, if you have one.

Consult B&H Service Division—Regardless of the age and model of your Filmo projector—it is still a good machine and will give years of good service with reasonable care. We build them that way! If your school projector needs

repair or reconditioning, remember that our factory reconditioning service gives you a real B&H *precision job*. See your B&H visual education dealer for details of this service.

Use the FILMOSOUND Library—Keep your school projector busy showing educational and morale-building films. Morale is the armament of the mind—as essential to victory as munitions.

New among the thousands of films available to you through the Filmosound Library are "*The Human Body in First Aid*," "*American Handicrafts*," "*Henry Browne, Farmer*" (new OWI film), and "*Divide and Conquer*," a Warner Bros. production repudiating the theories of the "master race" and revealing its brutalities. Mail coupon for film catalog.

DON'T FORGET a new lamp can be supplied you only when base of burned-out projection lamp is turned in.



BUY WAR BONDS

"E" FOR EXCELLENCE... how Army-Navy Award for extraordinary performance is won and presented, is shown by this one-reel sound film. Service charge 50c.

Bell & Howell Co., Chicago; New York; Hollywood; Washington, D. C.; London. Est. 1907.

MOTION PICTURE CAMERAS AND PROJECTORS

PRECISION-MADE BY

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- BELL & HOWELL CO.**
1855 Larchmont Ave., Chicago, Ill.
Without obligation, please send me:
() Detailed information on Reconditioning Service.
() Filmosound Library Catalog Supplement 1943A listing preinduction and other new training films.
() Data on Emergency First Aid films.
() Catalog of British Information Service films.
() Educational film catalog.

I now have..... have not..... your 1942 film catalogs.

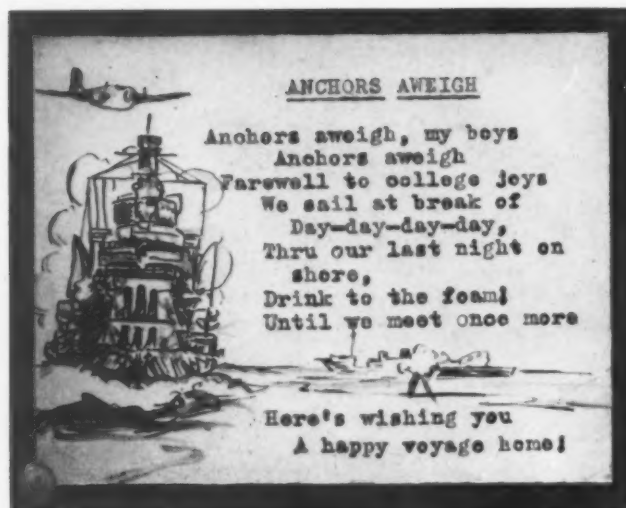
Name.....

Address.....

City..... State.....



Above: Design prepared with colored inks on cellulose plastic material.



Finished Slide
Cellophane on cellulose plastic material between cover glasses.

to see their own work projected on the screen. Spoiled slides or those that were used as much as desired were cleaned by applying kitchen cleansing powder and warm water.

Glass is a convenient medium because it may be placed directly in the projector without masking or binding. In making the design, a margin of $\frac{3}{8}$ inch should be left all around the slide in order that the edges of the design may not be cut off by the slide carrier of the projector. When a complicated design is used on slides, the outline of the slide is first drawn on white paper and the design is drawn within the margins on the paper. Adequate space must be allowed for the words. The etched glass is then placed over this completed drawing and the drawing is traced on the glass with black pencil and colored with special crayons or pencils. Colors are applied with dry water color pencils that are easily manipulated by children.

Another type of slide that yields greater screen luminosity and in-

creased brilliancy of color is especially challenging to pupils in the high school art department. The medium in this case is a clear cellulose plastic material (lumarith) cut to size, $3\frac{1}{4}$ by 4 inches. The design is prepared on white paper and traced on the plastic with India ink and a small fine pointed art pen. Colors are then applied with a small brush, using specially prepared slide inks. Adequate space is allowed for the words of the song.

Next, the words of the song are typed on cellophane with special carbon paper. The result is illustrated.

Cellophane is then placed on the cellulose plastic material carrying the completed design and together they are sandwiched between two cover glasses and bound with lantern slide binding tape. A thumbmark to guide the operator of the projector is placed at the lower left-hand corner.

ANCHORS AWEIGH

Anchors aweigh, my boys
Anchors aweigh
Farewell to college joys
We sail at break of
Day-day-day-day,
Thru our last night on
shore,
Drink to the foam!
Until we meet once more

Here's wishing you
A happy voyage home!

Above: Words typed on cellophane and spaced especially for the picture.

A piece of lantern slide cover glass treated on one side with a thin coating of gelatin ($\frac{1}{4}$ teaspoon of gelatin to each ounce of hot water) or purchased ready for use may be preferred to the cellulose plastic material as a base for the art work. When the design is completed the cellophane carrying the words of the song is placed over the design and a clear cover glass is bound over all as in the plastic slide. The gelatin serves as a base for the colors, making the color and India ink easier to apply, but care must be used in order to avoid marking the portion of the slide not covered by the design. Typical slides taken from various song slide units are illustrated.

Song slides of the type presented here serve as a strong motivating device in group singing. Their construction is filled with potentialities for creative work limited only by the ability and interest of teachers and pupils.

All illustrations are from slides prepared by pupils in the public schools of Bogota, N. J.



Take a lesson from some of your former students

Many of the young men you helped to train are now continuing their studies in the classrooms established at our great military centers. There they make constant use of the latest audio-visual aids, and with excellent results. In certain instances, training time has been shortened as much as 40%!

In order to keep you in close touch with the war-time developments of these scientific teaching methods, we have prepared a special service for teachers, supervisors and school administrators. This service not only offers suggestions in making current instructional programs more efficient, but also provides practical counsel on the most suitable RCA Audio-Visual aids for incorporation in present and proposed school situations.

Plan now for the time when RCA Audio-Visual equipment is again available. To make immediate and adequate provision for radio, sound, motion pictures and recordings is to be prepared for the inevitable demands of the future, when these teaching aids will be indispensable to education. Send coupon below for timely information.



RCA Educational Department (N-4)
RCA Victor Division
Radio Corporation of America
Camden, New Jersey

Please send me the latest information concerning provisions to be made for current and future use of audio-visual aids.

Name _____

School _____

Address _____



RCA Victor Division, Educational Dept.

RADIO CORPORATION OF AMERICA

Camden, N. J.

BOTH MIND & MATTER

● Modern education—your own school system—lives and grows almost as much by its materials, equipment, teaching and learning tools, as it does by educational philosophy and pedagogy.

● That is why The NATION'S SCHOOLS serves you doubly well. In its pages thinking is supplemented with fact. Every advertisement is a contribution to your knowledge of educational matériel—and there is more advertising in The NATION'S SCHOOLS than in any comparable magazine.

● Each month the "What's New" section brings you current information on product developments that will help you improve your educational program.

● Be sure you are taking full advantage of both the editorial and advertising product information. Make it a point with each issue to read—select—inquire.

● THE NATION'S SCHOOLS

CHALK DUST

APRIL IDYLL

The beamish superintendent spoke and kindness filled his eyes. "Dear Teachers," said he happily, "I have a neat surprise! The Board of Education at its meeting yesterday unanimously voted you a large increase in pay. For months the local Tax League has gone to bat for you and the entire district is convinced you have not had your due. They know your work is harder and have seen your classes grow. So if you'll pass in single file, I'll now give out the dough."

APRIL FOOL!

The grave professor wagged his beard and grinned in owlish glee. "Young man," he said, "the time has come to give you your degree. For empty years I've kidded you and kicked you 'round the place till I'm sick and tired of seeing your bright and shining face. I've had you rate my papers and stoke my furnace, too. You've done the thousand chores that every candidate must do. I approve your dissertation in its ponderosity so hustle to the office now and get your Ph.D."

APRIL FOOL!

Said little Willie's mamma, her countenance aglow, "I've come to visit school today without my tale of woe. It's true that Willie flunked his math and failed in every test, but I know the fault was Willie's and you did your very best. To meet you and your gracious wife is honestly a joy and your little ones are model kids for every girl and boy. I ain't a-going to bawl you out as I have done before and little Willie says he won't throw rocks at you no more."

APRIL FOOL!

NOW is the time for all good men to streamline education, and by the looks of things all good men are trying it. There is much palaver among the Commissioners of the Mighty not only to streamline education but also to accelerate, air condition and otherwise tinker up the old boat on which the knowledge of one generation is shipped on to the next.

Researchers have discovered that the fourth year of college should be telescoped. A student, say they, loses more in the fourth year than he gained in the other three. Wise professors have

suspected this before but have been too modest to discuss it in mixed company.

The remaining three years of college are to be geared up, diesel-powered and otherwise refitted for action, while the final year of high school is to be superimposed on the first year of college or who dealt this mess, anyway?

Then, according to plan, the remaining three years are to be collapsed into two years plus a medal for summer school attendance. One shivers when one thinks to what lengths such a course may carry one.

College professors will have to be reeducated and rehabilitated. Already some of the wiser ones are enrolling for courses in elementary folk dancing (Ed 002), finger painting readiness (Ed 110), methodology of sliding down slides with a maximum protection to nether garments (Ed 378) in preparation for entertaining the wee ones who will swarm college-ward come September. Proud parents of young genii, who have fought in vain with the public schools to accept their 2 year olds into kindergarten, are now exerting pressure on college deans to allow advanced credit for nursery school attendance.

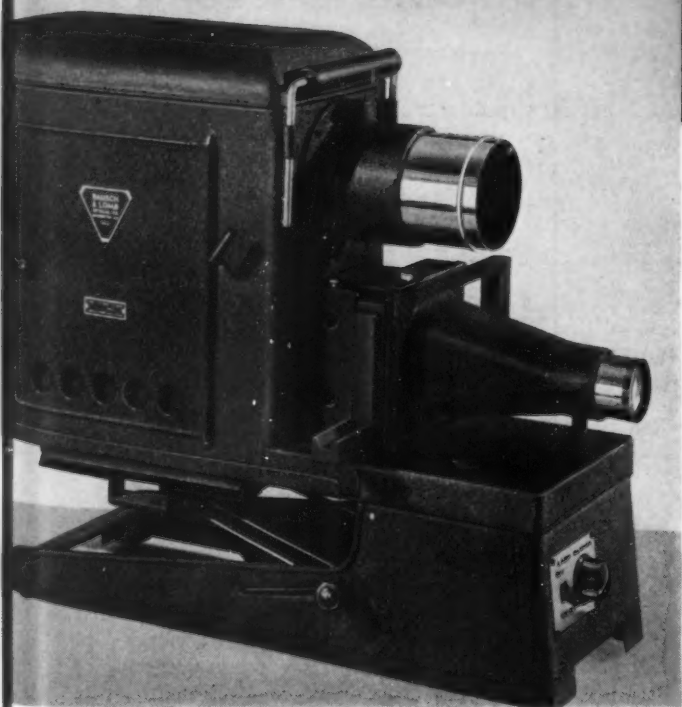
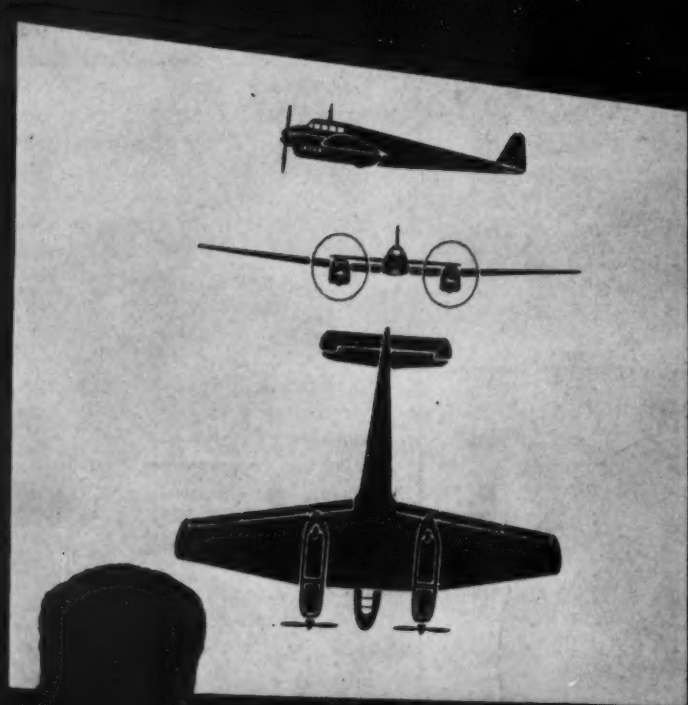
What hath war wrought? In the halcyon days when we went to college it took us four long years of classes plus a healthy amount of compulsory chapel before we were in a position to cock a snoot at the professor of Greek. If any misled student tried to make it in less than the allotted time, the faculty wagged their beards and opined that he would come to some bad end. It is even rumored that some of the most distinguished of those who today sit on Educational Telescoping Commissions escaped college only after five years, three tutors and passionate (albeit one-sided) correspondence with Dean.

Oh happy days when a child could enter first grade, secure in the knowledge that in the fullness of time he would be duly promoted to junior high school and not suddenly awake and find himself a Bachelor of Arts. But tempus fidgets and Leslie Ann, our 1 year old granddaughter, has already been enrolled for advanced credit in a distinguished eastern university because she was born with two teeth.

Frederic J. M. [Signature]

The NATION'S SCHOOLS

Enlist your dollar—BUY WAR BONDS



When There's no Time for Words

Wartime calls for the simultaneous instruction of many students . . . not a new job for B&L Balopticons which for years have been used for modern classroom instruction.

B&L Balopticons are economical in teaching material. One set of illustrations or specimens is made available to a whole class at one time. There are models for transparencies, slides, photographs or other opaque objects or even actual specimens . . . projecting large, brilliantly clear pictures which hold the attention of the entire class.

Here again the fine optical performance of another Bausch & Lomb instrument, proved in peace, fits it for a vital wartime need.

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*For work essential to Victory—B&L
Instruments are available on priorities.*

NEWS IN REVIEW

Child Care, Victory Corps Defeat

WASHINGTON, D. C.—The Senate on March 12 refused to include in the \$6,200,000,000 deficiency bill cash for the war-time care of children of employed mothers and for the preparation of high school pupils for war-time service including funds for the High School Victory Corps.

The two amendments killed were introduced by Senator Carl Hayden, Dem-

ocrat of Arizona. One provided an appropriation of \$2,284,000 to the Office of Defense Health and Welfare Services for the care of children of working mothers. The other amendment would have given the U. S. Office of Education two allotments: (1) for the preparation of high school pupils for war services, \$2,380,000, and (2) for the work of the High School Victory Corps, \$678,000.

Later Senator Hayden introduced bills covering exactly the same ground as the

amendments and these were referred to the senate committee on education and labor.

Senate Minority Leader Charles L. McNary said that until July 1 there are ample funds to handle the nation-wide child care program. These funds come under the Lanham Act and are administered by the Federal Works Agency.

Rejection of the child care amendment by the Senate was in line with House action which threw out of the appropriations bill the same appropriation for the Office of Defense Health and Welfare Services. That agency and the F.W.A. have for some time been battling to gain control of the child care program, it is reported.

Federal funds already granted to states for the promotion and development of community services for the children of working mothers are sufficient to help carry out state plans until May 15, Charles P. Taft of the Office of Defense Health and Welfare Services has announced.

Twenty-three state departments of education and 22 departments of welfare have thus far received grants from an allocation from the President's emergency fund for the coordination and development of war-time child care services.

Plans now pending approval in Washington include the Michigan and California welfare plans and the Indiana, South Carolina, Nebraska, Kansas, Oklahoma, Texas and Louisiana education plans.

Vocational Enrollments Swell

WASHINGTON, D. C.—Enrollment in public vocational schools has increased since the announcement of the "work or fight" order, according to a recent statement of a vocational school official. Waiters, bell boys, gasoline station attendants and many others classed as non-deferable are preparing themselves to enter war employment.

The program of Vocational Training for War Production Workers is operated as a joint enterprise between the U. S. Office of Education and the boards for vocational education in the states and territories of the United States.

Maintenance, Repair Defined

WASHINGTON, D. C.—An amendment to Conservation Order L-41 revises the definition of what constitutes maintenance and repair of a building. When a single job is partly maintenance and repair and partly new construction, the whole project will be rated as *new construction* and made subject to Order L-41.

Maintenance and repair, according to the order, means the work necessary to keep a structure in sound condition. It does not include any building operation involving a change in structural design.

Problems
in
CLEANING
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Solved

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SOIL *Solv*



In SOIL Solv, a fine quality liquid cleaning soap has been blended with a modern detergent with the result that greater emulsifying, better cleansing and freer rinsing characteristics are obtained than is possible with an ordinary soap.

Not only does this speedy cleaner remove the surface oil, but its increased wetting ability goes deep into the pores, emulsifying the imbedded dirt and grime and enabling it to be easily removed by rinsing. No curdy precipitate, or soapy film remains to dull the surface.

If your cleaning problems are such that they defy solution, why not try SOIL Solv?

SOIL Solv is a completely neutral cleaner. It may be used with equally fine results on wood, linoleum, cork, terrazzo, marble, tile and composition floors, also painted or varnished walls and woodwork.

Manufactured Only By

MIDLAND *Laboratories*
DUBUQUE, IOWA



Do You Have An Airplane In Your Classroom?



... It would be fine if every class in Pre-FLIGHT AERONAUTICS had an airplane, but it just isn't practical.

Elastic, Lighted Pictures—These 24 Jam Handy discussional slidefilm subject units with 1,742 pictures bring planes into the classroom. In some ways they are more helpful in teaching than a real plane. These pictures show on a

screen where all can see—a small part greatly magnified, a section of a large part, planes in flight, airflow over wings. They will help you impart technical and abstract information easily, quickly and clearly.

Officially Approved—This is a slidefilm training outfit based on the official ground school material of the Civilian Pilot Training Program and checked and approved by the Civilian Pilot Training Service of the Civil Aeronautics Administration.

Teaching Unit	Slidefilm Title	Content	No. of Pictures	Teaching Unit	Slidefilm Title	Content	No. of Pictures
I. Orientation	Men and Wings	History of Flight	55	VIII. Gliding	Pilot Problems	Navigational Problems	24
II. Aircraft Structures	Plane Performance	Effects of Loading	112		Air Pilotage	Maps and Charts	116
III. Aerodynamics	Lift and Drag	The Airfoil	92		The Pilot	The Pilot in Aviation	51
	Wing Forces	Aircraft Wings	88		Air Ocean	Basic Meteorology	82
	Stability	Static and Dynamic	67		Air Masses	High and Low Pressure Areas	75
IV. Power Plants	The Airplane Engine	Elementary Principles	63	IX. Meteorology 2 (Advanced)	Weather	Basic Forecasting	78
V. Communications 1	Radio and Control	Radio in Aviation	79		Air Pilotage	Maps and Charts	116
VI. Meteorology 1	The Air Ocean	Basic Meteorology	82		Dead Reckoning	Planning a Course	78
	Air Masses	High and Low Pressure Areas	75		Airway Aids	Navigational Helps	77
	Weather	Basic Forecasting	78		Flight Instruments	Principles and Use	112
VII. Avigation and Instruments	Air Pilotage	Maps and Charts	116	XI. Communications 2 (Advanced)	Radio and Control	Radio in Aviation	79
	Dead Reckoning	Planning a Course	78				
	Airway Aids	Navigational Helps	77				
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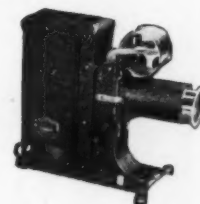


Order Today! Ten (10) Full Days FREE Preview!

If these slidefilms do not meet your requirements, you can return them. There is no further obligation. A thousand complete Kit-sets are now in successful use.

This is the complete Kit-set of 24 slidefilms \$ **65** ★
in the attractive carrying case, only
Individual slidefilms.....\$3.50

This is a film strip projector. It is used to show Jam Handy slidefilms on a screen in the classroom where all can see.



See your authorized visual education dealer for complete listing of Pre-Induction Training slidefilms.

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**How to obtain
ALL-OUT savings,
better performance,
from your flush valves**



THESE are days when the performance of flush valves should be checked carefully. For example, by making sure that every flush valve is properly adjusted, tremendous *extra* savings of water can often be obtained. (Such savings contribute to fuel and power savings; help the war effort.) Moreover, proper maintenance can often eliminate the need for repair parts that are made of critical materials.

To meet the need for more information on the whole subject of flush valve maintenance, the Imperial Brass Mfg. Company has published a 16 page manual—"Keep 'Em Flushing." It shows how a flush valve operates—how to get maximum water savings from flush valves—how to keep maintenance time at a minimum. Includes a helpful "Trouble-Shooter" Chart and other practical data.

Write for your copy

THE IMPERIAL BRASS MFG. CO.
1239 West Harrison St., Chicago, Illinois



Watrous
Flush Valves

Provision is made for emergency work on any damaged structure for the protection of the structure and the public. In prohibiting construction in violation of L-41, the amended order forbids not only the beginning of such construction but also carrying on or participating in the work.

Small Construction Speeded

WASHINGTON, D. C.—Since March 8, schools get authority to begin construction, costing less than \$10,000 and without benefit of federal aid, from their regional W.P.B. offices. This procedure is simplifying operations and speeding the processing of construction applications. The regional offices are also empowered to assign preference ratings for the necessary critical materials needed in building.

Under the new procedure banks of materials are being set up in the regional offices and the two claimant agencies involved, Office of Food Administrator and Office of Civilian Supply, W.P.B., have authorized regional directors to make the necessary allotments of controlled materials. These allotments are made simultaneously with the issuance of authority to begin construction.

Good News for Orchestras

WASHINGTON, D. C.—Claude Hough, schools and colleges section, W.P.B., considers the release of more than 50 per cent of musical instruments for civilian consumption of great interest to school and college orchestras.

A total of 40,300 of the instruments frozen last June has already been released. The original order permitted only those instruments that were unsuitable or of inferior quality or in excess of military requirements to be sold to civilians. Frozen on June 1, 1942, were more than 25 per cent of the B-flat clarinets; 20 per cent of bugles; 10 per cent of trumpets.

The freezing of musical instruments, however, did not extend to dealers' stocks. Many thousands, no longer permitted to be produced, were already in retailers' hands. Moreover ukuleles, wood banjos, mandolins, guitars and the entire violin family are still being manufactured.

Production of repair parts for maintenance of all existing musical instruments is likewise still permitted.

PD-1A Revised, Decentralized

WASHINGTON, D. C.—Since March 1 all PD-1A applications must be filed with the nearest W.P.B. district office, not in Washington. Since March 15 all applications for ratings on less than \$100 worth of material are processed in W.P.B. regional offices.

As the field offices learn to handle the



INDUSTRY NEEDS OPERATORS TRAINED ON MODERN MACHINES

One of the most serious problems confronting our war production industries is to find capable operators to man thousands of newly installed machines. The responsibility of preparing men and women to fill these jobs falls largely on the industrial and vocational schools that are prepared to give practical shop training on modern machines—the kind used in industry.

South Bend Lathes are widely used in war production and are therefore especially practical for indus-

trial apprentice training. Features responsible for their popularity in both industrial and school shops include their modern design, dependability, ease of operation, and precision. Our new catalog 100B describing these lathes is now ready. *Write for it!*



10" SWING, SOUTH BEND
QUICK CHANGE GEAR LATHE



TEACHING HELPS for Shop Classes

South Bend teaching helps—books, sound films, wall charts, and bulletins on the care and operation of a lathe—are available for school shop instruction. Write for Bulletin No. 21-C.

SOUTH BEND



Precision LATHES

SOUTH BEND LATHE WORKS, SOUTH BEND, INDIANA
LATHE BUILDERS FOR 36 YEARS

applications, this preliminary value limitation will be stepped up, Claude Hough of the schools and colleges section, W.P.B., declares.

A careful study of the revised PD-1A form is urged. Until full distribution of the new forms has been accomplished, W.P.B. will continue to process applications on the old until April 15. Thereafter only the revised form can be used.

Black Market in Buses

WASHINGTON, D. C.—A developing black market in school buses has been stopped dead by the freezing in present service of all local passenger vehicles

that are carrying nine or more persons.

O.D.T. Director Joseph B. Eastman put the freeze order into effect March 17 to protect school children and war workers from being deprived of transportation by the transfer of vehicles from communities in which they are needed.

The order will also provide O.D.T. with a complete list of all equipment in each area so that it can be shifted to the points of greatest need and will uncover idle equipment.

Reports from 15 states indicated losses of school buses of from 200 to 500 buses a state.

School authorities petitioning for the freeze had informed O.D.T. that a mass exodus of school buses was in prospect for the end of the present school year, when about 30,000 bus contracts expire.

One contractor who was providing bus service to a school system at \$1800 a year was offered \$1800 a month for the use of his vehicle elsewhere.

Another bus owner, after taking children to school in the morning, sold his vehicle for a large profit during the lunch hour, leaving the children no way to get home.

Brokers in the Southeast and Southwest have in many cases offered school bus owners twice the original cost for a two year old bus.

The order permits an operator to take on additional service, such as using a school bus to transport war workers as long as he does not discontinue present service.

Wants 650,000 Farm Volunteers

WASHINGTON, D. C.—Secretary of Agriculture Wickard sent telegrams on March 3 to the governors of the 48 states proposing the release of young people from schools in small towns and rural areas to help with the planting of essential crops this spring in labor scarcity areas. The secretary's action was based on the urgent need to make available immediately all possible aid in spring planting.

Between 500,000 and 650,000 Victory Farm Volunteers will be recruited from nonfarm youths for farm work during the spring and summer months. They will come largely from the ranks of the High School Victory Corps. Schools that do not have Victory Corps will set up separate recruiting programs.

Preferred for Dishwashers

WASHINGTON, D. C.—Schools and colleges training men for the armed services will have a better chance of getting commercial dishwashing machines than will other schools, according to an announcement March 5 from the plumbing and heating division of W.P.B. The machines will be made of less critical materials.

INSTRUCTION

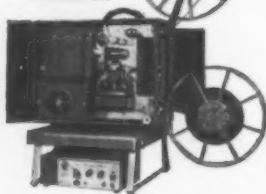
College—Army's '43 Version

The Army's '43 college work schedules will be long, with twenty-four to twenty-five hours a week of class and laboratory work, many hours of study, five hours of military training and one of physical training daily, according to Col. Herman Beukema, director of the Army's specialized training program. Courses will be shorter than is customary and will not lead to degrees. Tests will be given every twelve weeks and men fail-



MOVIES OF TODAY'S BATTLES SPEED TOMORROW'S VICTORY

FREEDOM MODEL
16MM. SOUND
PROJECTOR



NEW RECREATIONAL FILMS

In addition to a complete selection of Educational Films, DeVRY now offers NEW feature-length 16mm. RECREATIONAL FILMS. Short subjects to complete a 1½-hr. program included without extra charge. Moderate rental rates. Savings up to \$2.50 per program for 5 or more bookings. Write DeVRY FILMS & LABORATORIES, 1103 Armitage Ave., Chicago, for FREE catalog.

Boys brought up in the American way must be educated with maximum speed to conquer seasoned Axis armies. Letting them review and study actual engagements—learn the enemies' methods, tricks, pitfalls, through seeing motion pictures of him in action—is saving lives, speeding victory. Yes, motion pictures may be the factor that will assure your boy's return to his rightful place in society.

EFFECTS ON EDUCATION

Just as the War has affected revolutionary changes in tactics, it is also compelling changes in teaching. Neither the text book nor the instructor's best efforts can match the effectiveness of sound motion pictures.

If you have a need directly related to the War effort, finer, sturdier, war-born DeVRY equipment is available now—otherwise, when Peace returns. DeVRY CORPORATION, 1103 Armitage, Chicago, U.S.A.



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New York • CHICAGO • Hollywood

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WAR BONDS

WORLD'S MOST COMPLETE LINE OF MOTION PICTURE SOUND EQUIPMENT



HOW TO PLAN A SCHOOL WORKSHOP

You can get this
VALUABLE
SHOP LAYOUT BOOK
Free!

Shows how to plan New Shops and Modernize Old Ones

Prepared by vocational instructors from all over the country—the shop layouts and photographs contained in this new book are authentic school shop installations embodying the most ingenious solutions of the problems of space, safety, lighting, convenience and teaching efficiency in both small and large schools. There are actual floor plans and photographs of 30 shops in this attractive 44 page book.

In addition, this new book for the first time makes available important information on the new type of industrial power tools that are being so rapidly adopted for school use. Each tool is listed individually—band saws, circular saws, lathes, jointers, grinders, drill presses, shapers, scroll saws—and separate instructions for the placing and most efficient use of each tool are given.

Every one interested in vocational instruction should have a copy—and it's yours—FREE—for the asking. Simply fill out the coupon and your copy will be sent postpaid, without obligating you in the slightest.

DELTA MILWAUKEE

THE DELTA MANUFACTURING COMPANY
 664-D, E. Vienna Ave., Milwaukee, Wis.
 Please send me, without any obligation, a FREE copy of your new book "How to Plan a School Workshop."

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 Address.....
 School.....
 City.....State.....

Surprising



How **DEVOPAKE** hides and covers any surface in just one coat!

SURPRISING it is . . . even to maintenance men and master painters . . . whose experience in painting is broad. Certainly it was surprising — and gratifying — to the school commissioners in a large city (name on request) whose use of Devopake in room painting saved them 35% over former, ordinary methods. **High hiding power** of Devopake saved washing down of walls beforehand. Self-sealing action eliminated an undercoat. **Spreading quality** of Devopake cut gallonage from former 5 gallons per room to 2¼ gallons. **Big-brush workability** quickened time of application . . . **saved** man hours.

Devopake offers this new course in the school of painting experience and stands ready to save you time . . . money . . . labor in making all wall surfaces brighter, lighter, cleaner . . . with just **one** coat — one coat that is a **self-sealing primer and finish coat** in one. Because Devopake is an oil-base paint . . . it will stand up under wear and washing. And it will diffuse and reflect the maximum light available. Devopake by popular demand now comes in **7 practical colors**.

Specify Devopake on your next paint job and enjoy guaranteed satisfaction.

Devoe's maintenance paint line is built to meet all your requirements including high resistance to fungi, fumes and moisture.

Write us today for complete information that can help you solve your maintenance paint problems.

DEVOE & RAYNOLDS CO., INC.

The 189th Year of the Oldest Paint Maker in America
FIRST AVENUE AT 44TH STREET, NEW YORK, N. Y.



ing to meet requirements will be returned to active duty.

Army School Teaches 3 R's, Technics

The "Sergeant York School" was recently organized to teach reading, writing and arithmetic to unschooled soldiers from backwoods areas, enabling them to read orders, follow instructions and make reports. In addition, special training is offered to physically handicapped men in mechanics, radio operation and other technics. Col. Robert P. Glassburn is commanding officer of the school, which is located at the Army Air Forces Basic Training Center in Atlantic City, N. J.

Training Pupils for Industry

High school pupils not planning to return to school the following semester may be admitted to federally financed vocational war training in areas in which labor shortage is acute.

In some communities pupils who attend war production vocational classes are given credit toward graduation.

The U. S. Office of Education is ready to encourage training of high school boys and girls who, upon completion of training, are of employable age provided that: (1) courses are organized to supply trained workers to war industry; (2) pupils are registered by the U. S. Employment Service; (3) trainees are available for employment in war industry upon completion of course, and (4) courses operate for at least fifteen hours a week and for not longer than one semester.

Schools Should Provide 10 Services

Schools of tomorrow should provide at least 10 pupil services, according to the committee on planning for education, U. S. Office of Education. Services would include formally organized teaching, educational and vocational guidance, library services, extracurricular activities, work experience, junior placement services, transportation and lunch facilities, health service and camp experience.

To date, only the first item, formally organized teaching, is organized universally.

Course Designs Postwar Education

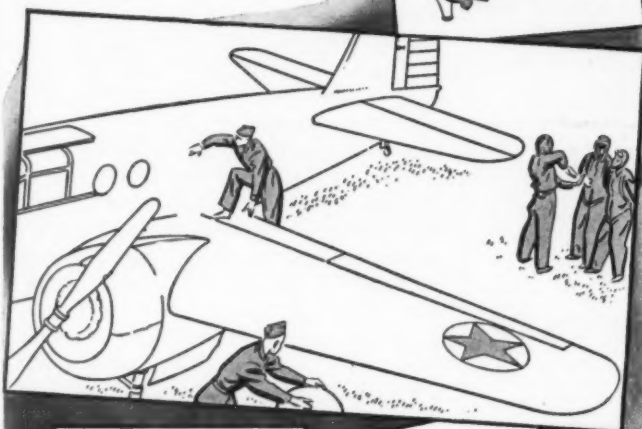
A course attempting to trace the design of postwar education in the United States, said to be the first of its kind, is being offered at Teachers College, Columbia University. Instructors are William G. Carr, secretary of the Educational Policies Commission, and John K. Norton of Teachers College.

Dutch Taught National Socialism

Secondary technical schools in Harlem, Holland, are going to be expanded at

Until Victory

★ ★ ★



THE facilities of American Seating Company's factory at Grand Rapids are at the service of the nation. The metal and woodworking machinery and the skilled craftsmen, for years devoted to producing American Universal and Envoy school furniture, now are producing assemblies for planes, ships, tanks and guns. American Seating Company chairs and seats and chapel pews, too, aggregating more than three million sittings, now serve our armed forces.

However, even with 90 per cent of our factory's production facilities engaged in urgent war work,



we are still able to take care of most school needs. American Seating Company is still your surest source of supply.

American Seating Company

GRAND RAPIDS, MICHIGAN

WORLD'S LEADER IN PUBLIC SEATING

MANUFACTURING: Aircraft pilot seats, wings, spars and fuselage structures of plywood, tank seats, mess tables and chairs for the Navy and Maritime Commission, canister bodies for Chemical Warfare Department, and cast iron assemblies for Quartermaster Corps.

PROTECT HEALTH, REDUCE FUEL COSTS with BALSAM-WOOL ATTIC INSULATION



Fuel shortages can affect even such established institutions as schools. For today and tomorrow, the great need is *fuel conservation*—to help this nation wage war more effectively.

At one stroke, you can protect student health—and save as much as 20% on your fuel bills—with Balsam-Wool Attic Insulation. That's the safe, sensible way to prepare for whatever may come.



Savings That Last

Balsam-Wool helps banish the menace of chilly schoolrooms. Not only does it provide important fuel savings, but it lessens firing labor—an important point in schools with hand-fired heating plants.

Balsam-Wool is quickly and quietly applied in the school attic. Once applied, it is a permanent improvement—soon pays for itself in fuel savings, and continues to provide those savings throughout the life of the school building.

Balsam-Wool is scientifically designed to meet every insulation need and condition: moistureproofed, windproof, flameproof, non-settling and termite treated. Because of its high insulating efficiency, it keeps schools more comfortable all the year round, reducing heat loss through the roof in winter and assuring cooler schoolrooms during hot weather.



Money-Back Guarantee

There is only one insulation which offers a written money-back guarantee of complete satisfaction—Balsam-Wool. The cost is surprisingly low—and it can be paid for in monthly payments. Now, while labor and materials are still available, see your *lumber dealer* about applying Balsam-Wool in the attic of your school, or mail the coupon for complete information.

Balsam-Wool

SEALED INSULATION



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Dept. 203-4, First National Bank Bldg., St. Paul, Minn.

Gentlemen: I want to know more about the uses and application of Balsam-Wool. Please have one of your engineers get in touch with me.

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Address.....

City.....State.....

Nazi "request." As reported to the Office of War Information, courses in national socialism will be added to present technical curriculum.

Course for Aeronautics Teachers

A summer session course in aeronautics for high school teachers under the Civil Aeronautics Administration is being offered at the University of Iowa beginning June 7 and ending July 21. In order to enroll, the applicant must be planning to teach a course in high school aeronautics during the next academic year. Information may be obtained from

Huber O. Croft, Civil Aeronautics Administration, Iowa City, Iowa.

Danish Reform Schools Overcrowded

Youthful offenders in Denmark are now being sent to prisons as reform schools are overcrowded, according to an article on the problem of increased juvenile delinquency in the Danish newspaper, *Nationaltidende*.

Italian Colleges to Close?

Italian schools of higher learning must close by the end of April, according to a recent Moscow broadcast to North

Africa. The broadcast credited an Italian newspaper report with a statement indicating that all students of such schools were to be drafted for either army or farm duty.

Foreign Language Study

Foreign language study has not figured largely in American culture to date. According to a recent *Minnesota Journal of Education*, only one American could be found last year with a thorough knowledge of Thai or Siamese language. Today it is being taught at the University of Michigan. In December of last year not one American scholar was able to give a course in Malay; today Yale offers the course.

The University of Indiana now teaches Turkish and the University of Pennsylvania, Moroccan. New courses in Finnish, Hungarian and Japanese are in session at Harvard. Johns Hopkins presents Icelandic and Modern Greek. The Hartford Seminary Foundation is teaching Arabic and Columbia offers Persian and Dutch. Other colleges and universities are adding languages as diverse as Korean, Punjabi and Bulgarian.

The number of students enrolled for courses in Portuguese is more than double that of a year ago, according to reports from three universities in Washington, D. C.

Father Subs for Schoolboy

A Detroit father recently donned his son's safety patrol belt and, during the boy's illness, took over the post at the busy corners of West Vernor and Central, helping the Harms School children across. Knowing that it might be difficult to obtain a substitute, the father reported faithfully until the boy was able to be back on duty.

ADMINISTRATION

War-Time Commencements

Patriotic themes carried out through student participation will characterize school graduating exercises this spring, according to a spot survey made during the month of March.

Supt. E. H. Landis of Dayton, Ohio, expects many senior boys to return from the Army to receive their diplomas—if they can get leave.

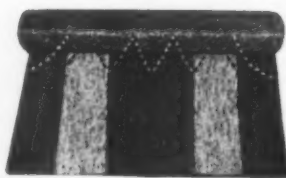
Special recognition will be given those boys already on active military duty by certain Indianapolis high schools at commencement time, Supt. DeWitt S. Morgan reports. Students will play the dominant rôle, music will be of a patriotic nature and the principals will make every effort to keep the programs simple.

Joseph G. Bryan, director of secondary education of the public schools, Kansas

THIS YEAR get the best eraser you can buy

Wool felt shortages suggest strongly that you'll be wise to use greater care than ever in this year's eraser purchases—that you buy the best erasers you can get, for longest possible classroom service. Most schools know that the Costello Double Sewed is their most economical buy—extra years of wear considered.

ERASES THOROUGHLY
LASTS FOR YEARS
EASY TO CLEAN



This photographic cross section has been retouched so that you can see why this is the only Double Sewed eraser made.



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Manufacturers Chicago Heights, Illinois



THERE ARE NO RESTRICTIONS
to your purchasing Holden Book Covers
which will "Re-Cap" your school textbooks
and lengthen their lives by 1 to 3 years.

Apply the same procedure to School Books you do to automobile tires

You Re-Cap a Tire

to preserve and lengthen its life and service—for longer mileage.

The Holden Cover is a "Re-Cap Jacket"—

strong, durable, waterproof and weatherproof, which will reenforce and strengthen the books in their weakest parts—for longer service.

Re-Cover or Re-Cap!

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PROMPT care is important in preventing infected wounds. Even minor wounds may become infected when antiseptic treatment is delayed. Children and adults report injuries promptly when Mercurochrome is used, because treatment is not painful.

Mercurochrome

(H. W. & D. Brand of Dibrom-oxymercuri-fluorescein-sodium)

is non-irritating and non-toxic in wounds. It has a background of twenty-two years' clinical use. Solutions keep indefinitely. Be prepared with Mercurochrome for the first aid care of all minor wounds and abrasions. In more serious cases, a physician should be consulted.



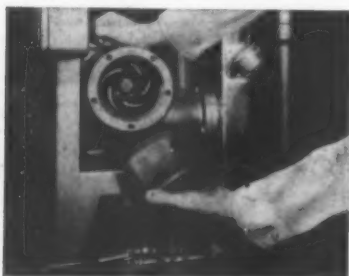
This seal denotes acceptance of Mercurochrome by the Council on Pharmacy & Chemistry, American Medical Assn.

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TO MAKE YOUR DISHWASHING MACHINE LAST LONGER . . .



Clean and inspect your AUTOSAN after each period of use! Don't let it "set" from one time to the next — for washing compounds, food sediment and water can start harmful corrosion. Instruct responsible persons in your kitchen with the proper cleaning routine, and *check-up* to see that cleaning instructions are closely followed. You'll protect yourself against the problem of getting hard-to-get replacement parts.

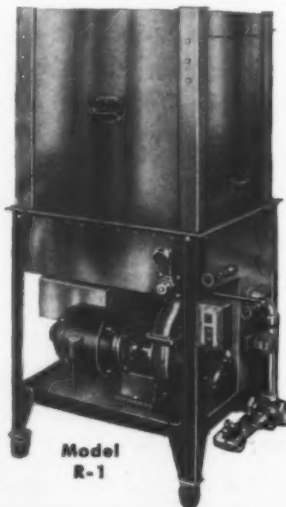


KEEP PUMP IN GOOD WORKING ORDER

Failure to keep scrap trays in place may require you to clean pump — or, if there is any lack of volume of wash water, check pump by removing cover as shown.

AVOID TROUBLE . . . OBSERVE THESE 13 GOOD MAINTENANCE RULES

1. Teach operators correct operation and handling of machine.
2. Make one man responsible for operation and maintenance.
3. Use good cleaning compounds.
4. Keep wash and rinse tubes clean.
5. Keep scrap trays clean.
6. Keep grease traps clean.
7. Keep inside of machine clean.
8. Keep pump in good working order.
9. Proper lubrication.
10. Open and close doors carefully.
11. Don't put off repairs.
12. Make periodic inspections of electrical hookups.
13. Don't let dirty water stay in machine for long periods.



Model
R-1

Colt's Patent Fire Arms Mfg. Co., Hartford, Conn.

Manufacturers of

COLT AUTOSAN

DISH, GLASS AND SILVER WASHING MACHINES

City, Mo., tells of a simplification program going on in the schools. In the elementary schools the final program is referred to as "closing exercises" rather than as graduation or commencement.

On the junior high school level, the words "promotional exercises" carry the idea to be emphasized. The exercises are being simplified and will be held in the afternoon rather than in the evening, as are the elementary school exercises.

No drastic change is being made on the high school level, caps and gowns replacing formal dress in the student activated program.

At Council Bluffs, Iowa, Supt. C. L. Crawford reports that at Thomas Jefferson High School, which employs the traditional outside speaker, the effort will be to find an outstanding personality from the armed forces to urge youths to remain in school as long as possible even in face of war conditions. Student participation at this school takes place on Honor Night and commencement is retained for the routine address and presentation of diplomas.

At Abraham Lincoln High School, Council Bluffs, the program will continue to be centered around student participation and student activities. At both these high schools yearbooks were eliminated this year. In an attempt to make up for this loss, the commencement program will be maintained in its usual form.

Jackson, Mich., too, will continue its student participation exercises, selecting some topic of current interest for a dramatic presentation, with valedictorian and salutatorian playing prominent parts.

New "Coordinator" in New York City

A new \$7500 position, coordinator of adult education, was recently created by the New York City board of education. Mark Starr, prominent labor leader associated with the International Ladies Garment Workers Union, was named for the post.

Curfews Combat Delinquency

Teen-agers have a 9 or 10 p.m. curfew in some cities to combat increase in juvenile delinquency. Bay City, Mich., adopted an ordinance fixing a 10 o'clock curfew. Violators under 16 will be considered delinquents and those between 16 and 18, misdemeanants. New ordinances in Key West and Fort Lauderdale, Fla., carry penalties for parents as well as children, the Key West law fining parents \$100 for their children's violations.

Lack of Oil Sends Schools "Home"

Youngsters of Medford, Mass., now have school at home. Their school building closed for lack of oil and classes for the first, second and third grades were

PAGE FENCE

America's First Wire Fence - Since 1883



Protect Your Protection

● Your fence is now "critical material." Because replacement may not be possible for some time to come, you will be wise if you have your present fence inspected now and serviced expertly by Page-trained men. Their long, specialized experience and their knowledge of localized conditions affecting fence metals, qualify them to extend the protective life of your fence. Write for name of nearest Association member and discuss fence servicing with him. Address PAGE FENCE ASSOCIATION, Headquarters: Monessen, Penn.

PRODUCT OF PAGE STEEL & WIRE DIVISION—AMERICAN CHAIN & CABLE CO., INC., BRIDGEPORT, CONN.

IN THE NAVY "ON WATCH" IN SCHOOLS DUDLEY LOCKS



Dudley Locks stand watch 24 hours a day, throughout their lifetime of faithful, dependable service. The backbone of locker defense in many schools throughout the land, Dudleys mean low cost protection for they cut down sharply on lock maintenance. Above all, Dudleys help morale... it's their easy student-operation and their trouble-free executive-control. The order of the day is Dudley Locks for Protection.

The Dudley line includes, besides those shown here, locks for every school need, master-keyed combination padlocks and built-in locks. Write for information.

DUDLEY LOCK CORPORATION

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Darnell Piano Casters overcome all handicaps of moving pianos and damaging floors... the wheels are properly offset to permit the caster to swivel with a minimum of effort...



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FULLER WET MOPS

Quality • Strength • Efficiency

FLOOR BRUSHES
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DUST BRUSHES
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DRY DUSTING MOPS
FIBER BROOMS
WAX & POLISH
Send for Catalog



IN SIZES
AND WEIGHTS
FOR EVERY NEED

THE FULLER BRUSH COMPANY

Industrial Division

3587A Main St.

Hartford, Conn.

"farmed out" among homes in the neighborhood.

Apply for Your Bus Gasoline

WASHINGTON, D. C.—Failure to return applications for revised Certificates of War Necessity may result in insufficient gasoline allowances for affected school bus operations in the second quarter in 1943, according to the Office of Defense Transportation.

Issuing Emergency Certificates

The war-time shortage of teachers has necessitated the issuing of emergency

teaching certificates in many states. Francis B. Haas, superintendent of public instruction in Pennsylvania, has outlined the procedure followed in that state when need arises.

To obtain an emergency certificate for a teacher in Pennsylvania the superintendent must have an emergency certificate record card filled out in duplicate. The card covers the personal and educational qualifications of the teacher and the situation necessitating such action. One of the cards should be filed in the office of the local superintendent and the duplicate copy forwarded to the office of teacher education and certifica-

tion, State Department of Public Instruction.

An emergency certificate may be issued in Pennsylvania for a period not to exceed three months. It may be renewed, but the time limit may be extended in situations where an emergency continues to exist.

PUBLICATIONS

Records as Learning Aids

Newly published, the booklet "Phonograph Records as an Aid to Learning in Rural Elementary Schools," by Effie G. Bathurst, is a report of an experiment in the production of phonograph records and their use in rural elementary schools. The experiment was financed by a grant from the committee on scientific aids to learning of the National Research Council. It is published by the New York State Education Department.

School in Community Service

"The School Plant in Service as a Civic Center" is an illustrated pamphlet presenting a study of the rôle of the James Hillman Junior High School, Youngstown, Ohio, in civic and community activities. Included are plans of the building complete with discussion of its organization for community service.

References for C.A.A. Exam

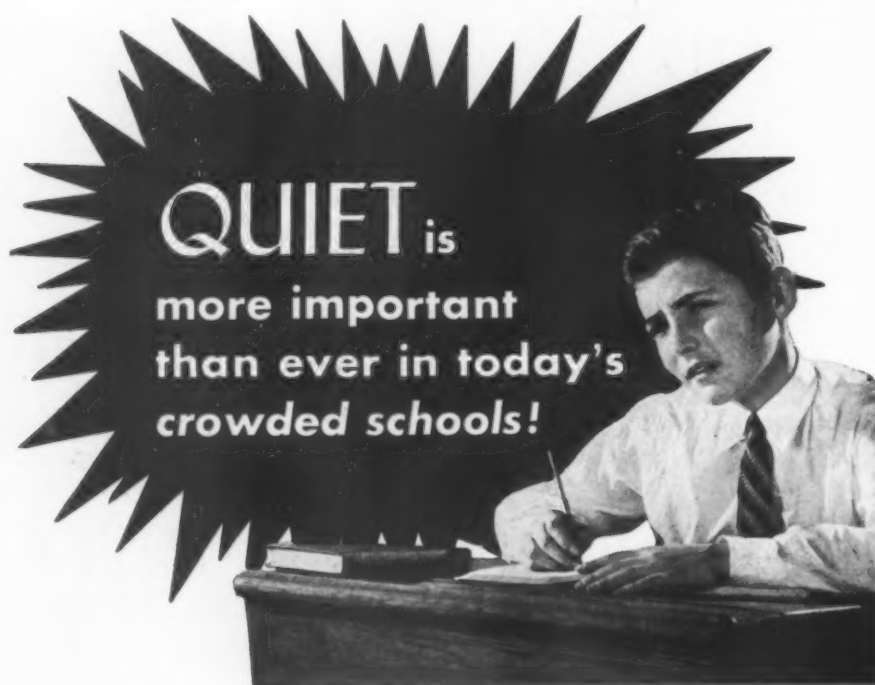
A list of study references helpful to classes preparing to take the C.A.A. examination on aeronautical knowledge for high school pupils has recently been published by the Civil Aeronautics Administration, Washington, D. C.

Salary Rates Compared

According to recent N.E.A. research, teachers' salaries were about 7 per cent higher in 1941-42 than in the prewar year 1938-39. Average salaries for 1941-42 are estimated at \$1500 as compared with an average of \$1441 reported for 1939-40.

Weekly earnings of factory workers have increased 43.6 per cent since January 1941. Farm wage rates have increased nearly 80 per cent. The minimum professional salary in federal service is \$2000, far above the salaries of most teachers. The government minimum for clerical service is \$1260, for full-time custodial service, \$1200. Overtime pay, granted in December 1942, raised federal salaries below \$5000 by from 10 to 22 per cent.

The cost of living in large cities has risen 22.1 per cent since the war began in Europe, 19.4 per cent since January 1941. The increase has been greater in rural areas—30.3 per cent since January 1941.



And Johns-Manville Acoustical Materials are available to meet your needs!

IT is a well-known fact that concentration is nearly impossible in the midst of interrupting noise. And today, with schools overcrowded... classes doubled up... courses accelerated... nerves on edge... the need for acoustical Materials in our schools and colleges is greater than ever before.

That's why so many schools are quieting their corridors, auditoriums, gymnasiums, study halls and classrooms with Johns-Manville Acoustical Materials.

They can be applied in either new or existing buildings with little disturbance to routine and at economical cost. They are attractive, sanitary and easy to clean.

If you have a noise problem, write today for brochure AC-26A, Johns-Manville, 22 East 40th Street, New York, N.Y.

J-M Acoustical Materials and J-M Asphalt Tile Floors are helping schools and colleges meet war-time conditions throughout the country.

Member of



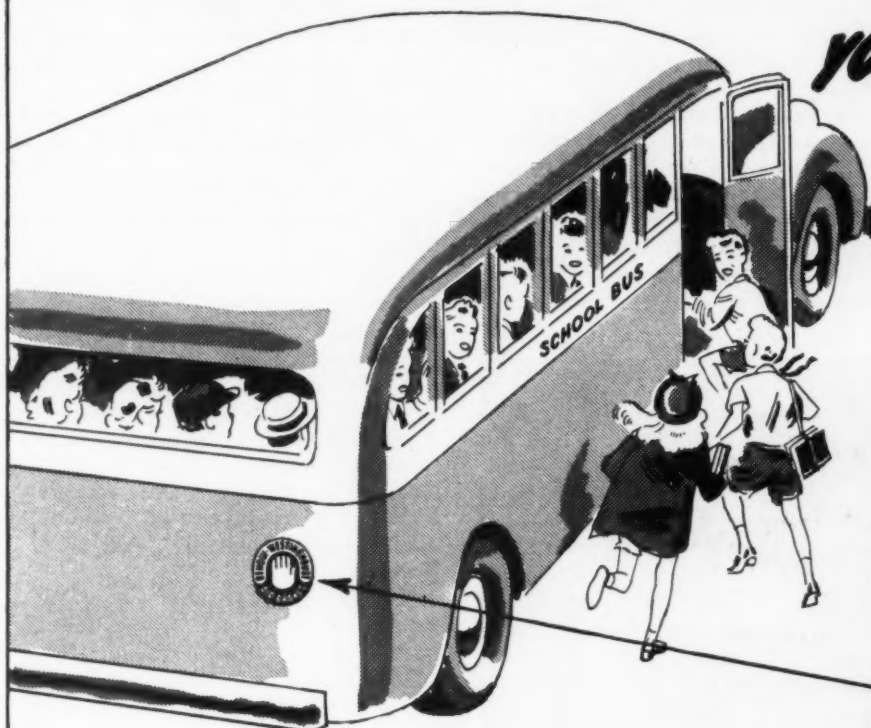
JOHNS-MANVILLE

PIONEERS IN SOUND CONTROL

THERE'S ONLY ONE GRADE OF SAFETY

**YOUR CHILDREN
DESERVE**

**Genuine
BENDIX-WESTINGHOUSE
AIR BRAKES**



Genuine Bendix-Westinghouse Air Brakes actually cost much less than you'd think ★ Actual records show you can have the safety and dependability of genuine Bendix-Westinghouse Air Control at less cost than ordinary brakes ★ Your local authorized Bendix-Westinghouse Distributor will be pleased to explain how you can modernize present equipment or get the most from new with the world's standard Air Control.

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AUTOMOTIVE AIR BRAKE
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THE YALE & TOWNE MFG. CO.

206 Henry St., Stamford, Conn.

Please send me your new free booklet, "Locker Lock Problems Can Be Solved!"

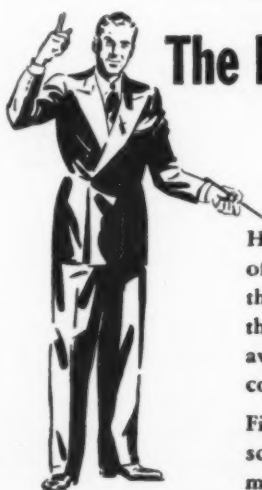
Name

Address

City State

School

... PUBLISHED BY THE YALE & TOWNE MFG. CO., IN COOPERATION WITH THE SCHOOL EXECUTIVES OF AMERICA



The Key to Locker Lock Problems is Yours for the asking

**AT LAST! A MANUAL FOR SCHOOL EXECUTIVES THAT SUMS UP YEARS OF EXPERIENCE
WITH LOCK BUYING, FINANCING AND CONTROL**

Here, in one concise booklet, is a complete analysis of your locker lock problems and how to solve them. See how hundreds of schools have simplified their bookkeeping, improved their locker rooms, avoided refund difficulties and lowered replacement costs!

Five distinct ways to plan lock purchases are described. These alone are worth the few minutes it may take you to tear off and mail the coupon above.

There's no obligation, and it may lead to a new trouble-free efficiency throughout your entire school year! But act now, while the matter is still fresh in your mind!

TRADE **YALE** MARK

**THE YALE & TOWNE MANUFACTURING CO.
STAMFORD, CONNECTICUT, U. S. A.**

NAMES IN NEWS

Superintendents

Armand J. Gerson, associate superintendent of public schools in Philadelphia for twenty years, has announced his resignation. Louis Nusbaum, also an associate superintendent, is retiring.

Vinal H. Tibbetts, superintendent of schools in Manhasset, N. Y., was elected president of the Progressive Education Association for a three year term.

H. C. Ebmeier, superintendent of the

schools in Ashland, Neb., has been re-elected for three years' service.

Mrs. N. G. Stonner has been elected superintendent of the Miami High School, Miami, Mo. She succeeds S. V. LaFrenz, now teaching at the naval school at William Jewell College, Liberty, Mo.

Clarence E. Amen of Bucklin, Mo., has been appointed public supervisor for the south half of northeast Missouri.

L. F. Bush has been reelected superintendent of schools at Bertrand, Neb., for the 1943-44 school term.

Frank E. McAnear, registrar and professor of education at the College of the

Ozarks, has been granted a leave of absence to accept the superintendency of the schools in Danville, Ark.

John Dunn is the new superintendent of schools in Mansfield, Mo. He succeeds Hoyt Shumate, who resigned to become high school and rural supervisor for the state department of education of Missouri.

L. W. Mayberry, superintendent of schools in Wichita, Kan., will retire August 1, after having completed thirty-one years of service as superintendent of these schools.

E. L. Grim has been named superintendent of the public schools at Vassar, Mich. Having been principal of the Vassar High School for the last three and one half years, he succeeds Ralph E. Brant, who resigned to accept the superintendency of the schools in Menominee.

Grant D. Morse has been reengaged for the 1943-44 school year as superintendent of the Saugerties public schools, Saugerties, N. Y.

J. Dale Coonley has been reelected superintendent of the Scotia Consolidated Schools at Scotia, Neb.

Mrs. Zella Miller has been selected as the new superintendent of schools for Plymouth, Neb.

Ralph Barker is the superintendent of schools at Snook, Tex.

Charles W. Mason, for the last twenty years superintendent of the schools in Norfolk, Va., resigned after a three months' leave of absence because of ill health. E. S. Brinkley, who has been serving as acting superintendent, will continue in that capacity.

County Superintendents

W. L. Case has been reelected superintendent of schools of Harrison County, Kentucky. His term will run for four years.

Raymond T. Sant, superintendent of schools for the northern district of Cayuga County, New York, is now a first lieutenant in the Coast Artillery.

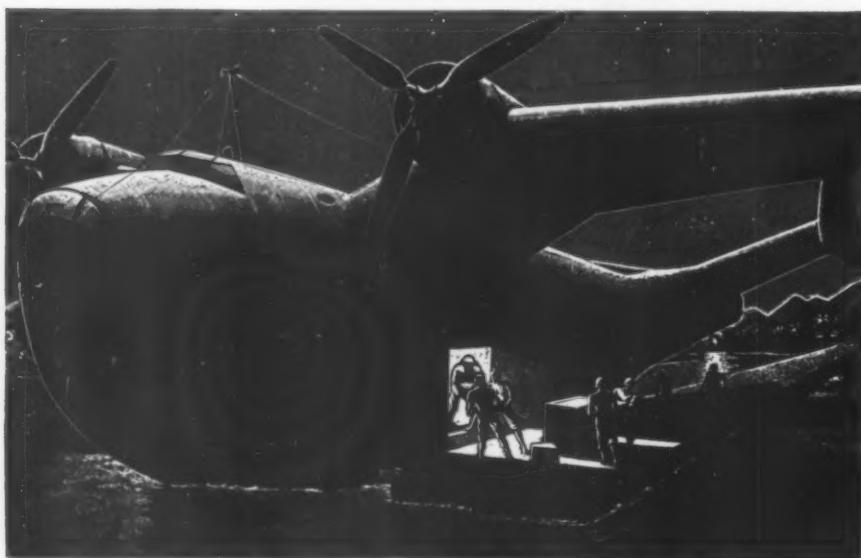
Earle Tegarden, superintendent of schools in Caldwell County, Missouri, has been appointed as a state district supervisor over 12 Missouri counties.

Principals

Robert H. Chastney, a member of the faculty of Hunter College in New York City, has been appointed principal of the high school in Montpelier, Vt., as successor to John C. Huden, who resigned to become state supervisor of high schools in Vermont.

T. C. Bird has resigned his position as principal of Hobbs Senior High School, Hobbs, N. M., to become a first lieutenant in the Army Air Corps.

Louis J. Helzer, formerly assistant principal of the high school in Scottsbluff, Neb., is now principal. He suc-



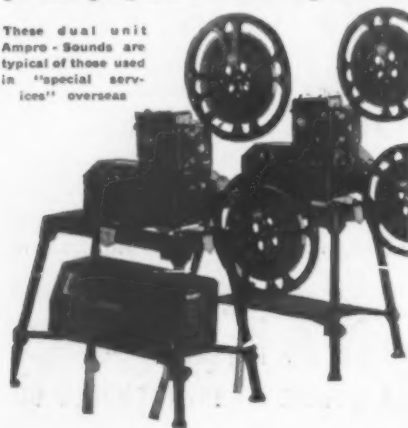
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tertaining United Nation soldiers on both fighting and production fronts. Still more projectors are needed! Private owners of 16mm. projectors are urged to contact Civilian Defense authorities in their local communities and enlist these machines in this vital wartime program.

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and kill, until they conquer the world.

Then, by the whip, the sword and the gallows, they will rule.

No longer will you be free to speak or write your thoughts, to worship God in your own way.

Only our dead will be free. Only the host who will fall before the enemy will know peace.
Civilization will be set back a thousand years.

Make no mistake about it—you cannot think of this as other wars.

You cannot regard your foe this time simply as people with a wrong idea.

This time you win—or die. This time you get no second chance.

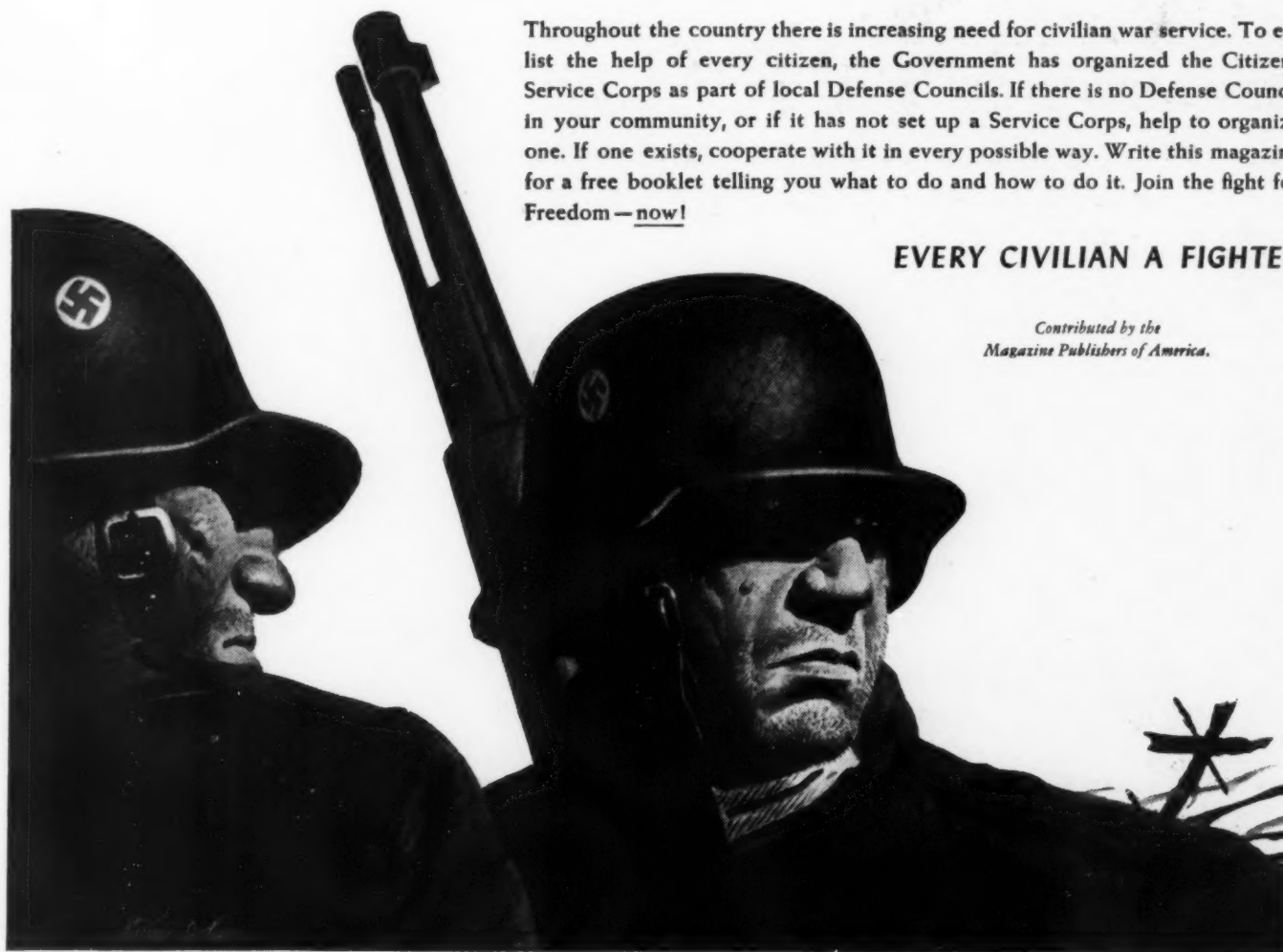
This time you free the world, or else you lose it.

Surely that is worth the best fight of your life
—worth anything that you can give or do.

Throughout the country there is increasing need for civilian war service. To enlist the help of every citizen, the Government has organized the Citizens Service Corps as part of local Defense Councils. If there is no Defense Council in your community, or if it has not set up a Service Corps, help to organize one. If one exists, cooperate with it in every possible way. Write this magazine for a free booklet telling you what to do and how to do it. Join the fight for Freedom—now!

EVERY CIVILIAN A FIGHTER

*Contributed by the
Magazine Publishers of America.*



ceeds **Everett M. Stone**, who recently resigned to head an insurance agency.

Natalie Nason, who has been acting principal of the high school at New Gloucester, Me., has resigned to enter the Waves officers' training school at Smith College, Northampton, Mass.

W. Scott Austin is the newly appointed principal of the Central Junior High School, Montclair, Mass.

U. L. Riley, who has been assistant to **Herold C. Hunt**, superintendent of schools in Kansas City, Mo., has been named principal of Longfellow School in that city.

Harold J. Adams, principal of the Clifton High School Annex, Clifton, N. J., will succeed **Walter F. McNutt** as principal of Clifton High School. Mr. McNutt resigned because of ill health.

In the Colleges

Kathleen B. Hester, formerly a teacher in the schools of Mount Lebanon, Pa., and a member of the staff of the school of education, University of Pittsburgh, has been appointed to the faculty of the Merrick Demonstration School and of the school of education, University of Miami, Coral Gables, Fla.

Rev. Henry Eyster Horn of Philadelphia has accepted the presidency of Marion College, Marion, Va.

Joseph M. Uhler is the new president

of Indiana State Teachers College at Indiana, Pa. He is not connected with the State Teachers College, Terre Haute, Ind., as formerly stated.

Private Schools

Col. William R. Brewster, president of Georgia Military Academy, was recently elected president of the Southern Association of Private Schools.

Robert R. Reeve, head of the department of music at St. Louis Country Day School, has a leave of absence to study at Columbia University.

Elizabeth Brooke Cochran is the new principal of St. Anne's School, Greenway Rise, Charlottesville, Va.

Ralph H. Bent has accepted the position of registrar of the Riverdale Schools, Riverdale-on-Hudson, N. Y. He was formerly assistant head of the Barnard School for Boys, New York City.

Miscellaneous

Elsie May Smithies, assistant principal of the University of Chicago High School, has been elected president of the National Association of Deans of Women. She is the first high school dean to be named to that office.

Carlton C. Jenkins, director of instruction for the schools of Scott County, Virginia, has resigned to become coordinator of secondary education for four

high schools and a junior college in Santa Barbara County, California.

Rev. Robert A. Hewitt, rector of Weston College, has been named president of the Boston College High School in Boston. He succeeds the **Rev. Francis L. Archdeacon**, who has been transferred to Campion Hall, North Andover, Mass.

Romeo Proulx, grade supervisor of the central school system at Lake Placid, N. Y., has been appointed school supervisor of District 3, Essex County, New York. He succeeds **Claude R. Clark**, who was recently given a commission in the Army Air Force.

Ellsworth C. Dent is the new general manager of the Society for Visual Education, Inc., Chicago. He was formerly RCA educational director.

Deaths

John Lincoln Alger, president emeritus of the Rhode Island College of Education, died recently in New Haven, Conn.

Frederick James Fessenden, founder and former headmaster of Fessenden School, died recently at his home in West Newton, Mass.

H. F. Carmichael, principal of Roosevelt Junior High School, Decatur, Ill., died suddenly at his home in Decatur.

W. W. Borden, superintendent of schools at Whiting, Ind., died recently at the age of 65.

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Free to Manual Training Instructors— NEW WALL CHART ON SAW FITTING

Teaching the fundamentals of fitting hand saws is greatly simplified with this new Atkins Chart. Illustrates and describes in detail the right way of filing and setting teeth of hand, rip and panel saws. Suitable for wall mounting—19" x 25" in size. Write for free copy.



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WHAT'S NEW

Sanitary Seats for Public Washrooms

Self-Raising Allows Dual Purpose

Here is a sanitary seat designed for those who prefer the conventional type. A self-raising hinge provides for its use both as a toilet and urinal. The Sperzel seat is made of selected straight grain



northern hardwood. According to the manufacturer, this hardwood eliminates warpage and other common defects. Seats are made from 1¼ inch stock and are available in standard finishes and sheet covering. They will fit any standard toilet bowl with 5½ inch post hole centers.

In addition to the product illustrated, another type of sanitary seat consists of two black bakelite seat pads connected by a white plastic yoke. This is also self-raising and serves a dual purpose. Surfaces are polished and non-porous, thus eliminating crevices or inaccessible places where germs or bacteria may lodge. Comfort is assured, yet unnecessary washroom time wasting is not encouraged. Designed particularly for public washrooms, the seat is not affected by chemicals ordinarily encountered.—Sperzel Sanitary Seat Company, 218-230 Metropolitan Life Building, Minneapolis.

- When inquiring, refer to NS230

Spee-Dee Will Do Your Printing

Portable Prints in Half a Minute

In these days when office force and teacher have much to do, a Spee-Dee Printer can minimize detail in a hurry, according to the manufacturer. Blue or black and white prints can



be made in half a minute! Being portable, this facility can be plugged into any standard electric outlet.

An oversized printing service prevents crowding, overlapping or blurred edges and a special curved glass surface gives perfect contact without that inconvenience of wrapping prints around a cylinder. Printing the Spee-Dee way costs less than 1½ cents per square foot.—Peck and Harvey, 4325 Addison Street, Chicago.

- When inquiring, refer to NS231

for SCHOOLS

Dual Desk—Yours Without Priority

Work and Type in Comfort

Here is a desk that is not monopolized by a typewriter but offers an entire top available for work. The surface is always free and ready for use as the machine is anchored out of sight or at a proper work level by a nonremovable platform that slides back and forth and up and down on wood guides.

No rails are exposed between drawer fronts. No protruding drawer pulls lurk for shins and elbows. And no priority is required because hardware or critical materials are not used. Lightweight cuts the cost of transportation, too, says the producer.—Walrus Manufacturing Company, Decatur, Ill.

• When inquiring, refer to **NS232**

Wall Board Prefinished

Panels Easily Installed

Redecoration is possible now with Chevron Board. This new wall board is plastic coated and can be obtained in large wall-sized sheets that require no finishing. Sizes run up to 4 by 8 feet. Available in a wide range of pastel tones, panels come in three designs—tile board, unscored sheets and streamlines. Plastic finish is permanently bonded to the compressed wood fiber base and is designed so that it will not warp, chip, craze, crack or peel.



Panels of Chevron Board are suitable for shower stalls, kitchens, bathrooms, laboratories and similar locations. Material is easily installed by nailing, screwing or cementing to frame or walls. This practical product features low cost.—Barclay Mfg. Co., 385 Gerard Avenue, New York City.

• When inquiring, refer to **NS233**

Kits Make Classroom a Laboratory

Correlated Visual Aids Easy to Use

For administrators who want to see their classrooms on a laboratory basis, Foley and Edmunds, Inc., offers recent developments in a series of social science kits. These kits contain a variety of visual aids, each playing its own part in making new conceptions a reality for pupils.

Film strips (35 mm.), charts and maps, a diorama, an adhesive symbol set, outline maps and a set of photographs are combined with a teacher's guide suggesting uses of the



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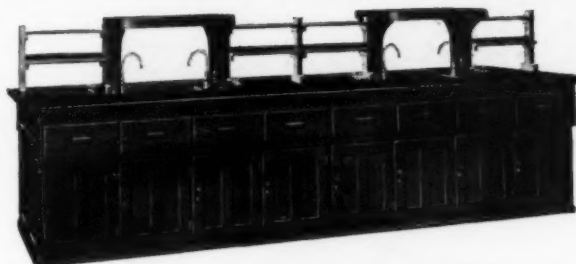
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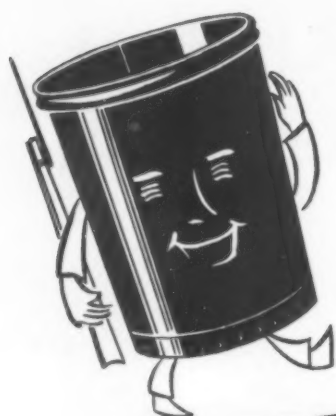
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different mediums, background information, additional activities and a bibliography. Easily manipulated, these kits make it simple for a pupil to identify himself with the situation involved.—Foley and Edmunds, Inc., 480 Lexington Avenue, New York City.

• When inquiring, refer to **NS234**

Tubes Stocked for Demand

Increased Sizes Available in Plastic

Size is no longer a problem in Saran tubing. This new plastic product is now available in $\frac{1}{2}$, $\frac{3}{8}$ and $\frac{3}{4}$ inch sizes. In addition, black Saran pipe of $\frac{1}{2}$ inch and $\frac{3}{4}$ inch iron pipe size is in production and all indications point to the fabrication of even larger sizes in the near future.

Various sizes have been stocked according to popular demand. For any order less than the listed footage, a set-up fee is charged. This is also true for tubing of any size that is not stocked, the only exception being an order that is expected to total 400 pounds during a three months' period—Dow Chemical Company, Plastics Sales Division, Midland, Mich.

• When inquiring, refer to **NS235**

New Valve Saves Critical Materials

Approved for Government Projects

Designed to conserve critical war materials, the new "V" Watrous Flush Valves give dependable service, says the manufacturer. The new valves are approved for use on government projects and can be furnished for essential war-time construction having proper priority and end use ratings.

A bulletin describing the product and containing a simplified reference chart that shows the proper combinations to use in order to comply with War Department specifications is available from the manufacturer upon request.—Imperial Brass Manufacturing Company, 1200 West Harrison Street, Chicago.

• When inquiring, refer to **NS236**



Plastic Paint Outlasts Ordinary

Expands, Contracts With Temperature

"Our new plastic paint ends constant repainting," states the manufacturer of Calumet Liquid Plastic Paint. This new product expands and contracts with changing temperatures. Cracks, splits and joints of reasonable size remain sealed and outlast several coatings of ordinary paint.

Nonporous and impervious to penetration of dirt and moisture, the painted surface may be washed by either rain,

Address manufacturers for further information

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hose or sponge and still retain its beauty—undamaged.

According to the manufacturer, this new plastic paint also seals concrete floors against dampness and concrete dust. Applied, like other paint, by brush or spray, it wears well on heavily used floors.—Calumet Plastic Company, Inc., 4744 Calumet Avenue, Hammond, Ind.

• When inquiring, refer to **NS237**

Liberty Desk for Service, Design

Correct Posture in Chair-Desk

Here is an all-wood movable chair-desk that replaces the steel desks no longer available. Every Liberty desk has the workmanship, service and correct-posture design that school buyers expect and demand, according to the manufacturer.



Chairs are built of northern hard maple with all edges and corners fully rounded. Double-dowel joints, double-braced top, corner-block seat construction and durable school brown lacquer finish assure long service. A sample of the Liberty wood chair-desk will be submitted for approval on quantity purchases.—Beckley-Cardy Company, 1632 Indiana Avenue, Chicago.

• When inquiring, refer to **NS238**

NEW CATALOGS

Pamphlet Presents "40" Economy Desks

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The new "40" economy desk series, designed especially to meet government regulations and customer demands of low price and quick service, is displayed in pamphlet form by the **National Desk Company, Herkimer, N. Y.**

As shown in the pamphlet, the new desks are made of quartered oak and combination walnut. Tops are 1 1/4 inches thick, of 5-ply construction with pencil round edges.

• When inquiring, refer to **NS239**

Guides Dietetic Instruction

Booklet Presents Teaching Steps

"Manual Nutrition Guide," for use by industrial and school dietitians, is the result of special research made by the **General Electric Consumers Institute, Bridgeport, Conn.** The booklet contains information and plans on (a) how to

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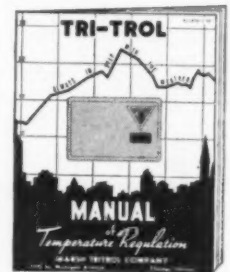
present nutrition instruction that will "get the story across," (b) how to build advance interest in nutrition schools and (c) how to maintain audience interest for the length of the course.

• When inquiring, refer to NS240

Regulator Reduces Heat Consumption

Manual Illustrates, Diagrams Story

Information on how to reduce the consumption of heating fuel is contained in the new "Manual of Temperature Regulation," published by the Marsh Tritrol Company, 600 South Michigan Avenue, Chicago. Illustrated with charts and diagrams the booklet presents a 12 page comprehensive, easy-to-follow study of the company's Tri-trol regulator.



The booklet discusses the saving of the maximum amount of fuel by keeping inside temperatures at a fixed level, avoiding the discomfort of overshooting and undershooting and eliminating the waste that comes from window opening. Sample charts show how this is accomplished with the Tri-trol regulator in building for multiple occupancy.

In addition, construction, application and operation of the regulator are described in detail and supplemented with illustrations. A copy of the manual is available upon request.

• When inquiring, refer to NS241

Easy Craft Projects in Series

Booklets Complete with Plans

Just off the press, this new series of booklets features plans for individual craft work in novelties, playground equipment, toys, games, furniture, yard furnishings and one-evening projects. Adapted especially for school use, the series is published by the Delta Manufacturing Company, 600 East Vienna Avenue, Milwaukee, maker of tools. Each booklet is illustrated with pictures and diagrams. Instructions are complete.

• When inquiring, refer to NS242

Illustrated Handbook Surveys Training

Tested Plans Offer Time-Saving Guide

"Training Employees as Job Instructors" is a concise handbook surveying principles and methods of training programs. Offered by the Metropolitan Life Insurance Company, New York City, the practical booklet contains the substance of "Training Within Industry," a compilation of plans by the New York State Industrial Service, the U. S. Office of Education and Carnegie-Illinois Steel Corporation. Supported with illustrations and references, the publisher claims that this report is an approved time-saving guide in the establishment, expansion or review of existing training programs.

• When inquiring, refer to NS243

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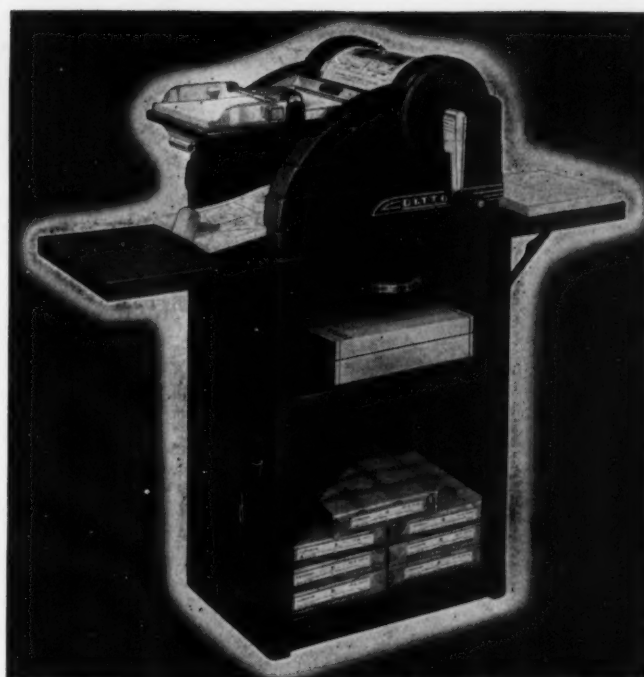
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Classroom Aviation Films—Produced for preflight training in secondary schools at the request of the U. S. Office of Education and the Civil Aeronautics Administration. Six films, each one reel in length. 16 mm.—Bray Pictures Corporation, 729 Seventh Avenue, New York City.

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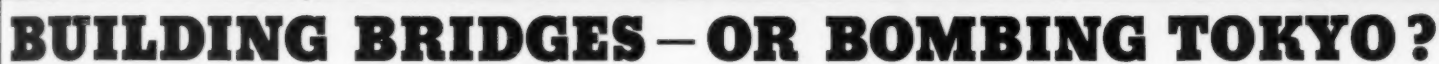
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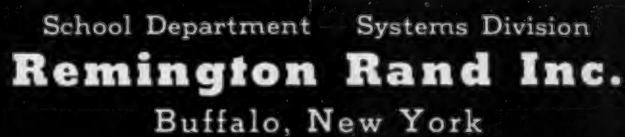
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